

Electronic data recording tools and identifying species in the field

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Abstract – The “European Distributed Institute of Taxonomy” (EDIT) is an initiative of 28 European, North American and Russian institutions to build a network in “Taxonomy for Biodiversity and Ecosystem Research”, with the objective to reduce the fragmentation in taxonomy through institutional integration in Europe (www.e-taxonomy.eu). European Commission funding (FP6) for this “Network of Excellence” has started in March 2006, and runs for 5 years. For EDIT Work Package 7 (WP 7) “Applying Taxonomy to Conservation” the aim is to strengthen the input of taxonomic expertise in Europe for biodiversity conservation, by organizing the participation of individual taxonomists and experts in biodiversity inventory and monitoring efforts in conservation areas (www.atbi.eu).

For biodiversity inventories and monitoring, the advantage of using digital field recording tools is to simplify data recording as well as to improve data quality. The use of electronic field tools and software should be promoted to help minimizing error rates, in particular to avoid mistakes from the beginning of the recording chain. Many errors may be avoided by using authority lists, e.g. for countries, habitat-types or taxa that can already be determined in the field. Automated georeferencing and recording of date and time in standardized formats already in the field will also avoid errors when importing or retyping such data into a database. Relevant software should be usable for tools such as mobile phones with GPS (Global Positioning System) functionality up to water resistant PDAs - Personal Digital Assistant (e.g. Magellan - Mobile Mapper; Trimble – Juno, Nomad).

Examples presented here for more efficient electronic data recording in the field include the application of mobile recording devices with customized forms, which are tested for field work in ATBI+M (All Taxa Biodiversity Inventories + Monitoring; www.atbi.eu) sites operated in the EDIT project. This is a general approach for recording geo-

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referenced, individual species data using customized forms for ESRI ArcPad applications. Species names can be selected from a taxonomic authority list provided in a file in dBASE-format. Such files can be easily created, modified, and exchanged to allow individual researchers to use regional or otherwise customized species lists. Fields and field formats correspond to ABCD standards so that exports of recorded locality, event, and species data can be directly integrated into a central database and applications for individual ATBI+M websites (e.g. www.atbi.eu/mercantour-maritime/ or www.atbi.eu/gemer/). The authority species lists may be customized for a geographic area (e.g., a nature reserve) and/or a group of taxa (e.g., larger birds). This allows each expert to choose the species list needed for his/her research. Problems remain with observation records which cannot be reliably determined in the field. Therefore identification help should be made available on the PDA at least for difficult taxa.

Index Terms — biodiversity, digital data capture, fieldwork, inventory, species authority lists.