reproducibility: essentially every body could have access to all the data, including protocols and programs to reproduce and challenge a piece of research.

In this lecture aspects of state of the art and future developments concerning taxonomic publishing will be discussed. A first part will discuss efforts to digitize legacy publications, enhance it with semantic mark-up and links to external databases such as Zoobank, the Hymenoptera Name Server, Hymenoptera Anatomy Ontology, individual collections through Life Science Identifiers or equivalent, GenBank, and how it's access is improved by applications allowing to harvest specific elements from these publications. An assessment of the costs and benefits will lead to the second part, prospective publishing. At center will be the National Library of Medicine Document Tape Definition (NLM DTD) for publishing and archiving that has been customized for the taxonomic domain (taxpub). Its use in a journal production workflow will be explained that is being developed in collaboration with Pensoft, the future publisher of our Journal of Hymenoptera Research. This includes the generation of a manuscript to its dissemination as peer reviewed journal article, the linking to external resources such as Zoobank, image banks, GenBank etc.

Finally this change of paradigm from an emphasis of print/archive to digital/access, and its implication for our taxonomic infrastructure, such as access to databases, shared vocabularies or ontologies, its dissemination and reuse, open access, and not least the social changes that this might imply, will be explained.

The lecture is based on the experiences from building antbase and its pdf repository for ant taxonomic publications, Hymenoptera Name Server, the fledgling Zoobank, Plazi, Taxpub and Taxonx XML schemas, developing of Zookeys as a taxpub XML based online journal and Journal of Hymenoptera Research that is under development.

Chalcidoidea associated with seed capsules of *Asphodelus*

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Seeds of *Asphodelus* (Liliaceae) were known, prior to the present study, to be infested by a single species of Eurytomidae, *Eurytoma asphodeli* Hedqvist, and by parasitic species in the tetrastichine genus *Puklina*. In our research *E. asphodeli* was the chalcid reared most commonly from the seeds and at first it was thought to be phytophagous. However, it belongs to the robusta-group of species, the great majority of which are entomophagous, and the structure of the occipital surface of the head with a strong postgenal carina and complete postgenal groove, is correlated with larval entomophagy. Probable hosts of *E. asphodeli* are some undescribed species of Eurytomidae, provisionally attributed to *Bruchophagus*. These species have an occiput that is characteristic of phytophagous Eurytomidae, lacking a postgenal carina and with an incomplete postgenal groove. *E. asphodeli* can have at least two generations a year, adults emerging both in the calendar year of seed formation and after overwintering, but the *Bruchophagus* species are predominantly univoltine, almost all individuals emerging in spring after overwintering inside the seeds as fully grown larvae.

The pteromalid *Pteromalus tethys* Gijswijt and a eupelmid in *Eupelmus urozonus* Dalman agg. have also been reared from asphodel seeds, *P. tethys* as an ectoparasitoid of eurytomid larvae and *E. urozonus* as a secondary parasitoid of *P. tethys*. A species of *Puklina*, perhaps *P.*

depilata Graham, was reared in large numbers as a gregarious parasitoid of Eurytomidae in *A. cerasiferus* seeds, and other slightly different *Puklina* but possibly only variants of *P. depilata*, emerged in smaller numbers from seeds of other asphodel species.

Microlepidoptera larvae, probably Tortricidae but not yet identified, are common in asphodel seed capsules in which they consume the seeds. They are attacked by Ichneumonidae, Braconidae, *Hyssopus nigritulus* (Zetterstedt) (Eulophidae), and by *P. tethys* and *E. urozonus* agg. which may also develop on the Eurytomidae.

Species of Eurytomidae and *Puklina* encountered in this study appear to be associated only with asphodels, and there is evidence that different *Asphodelus* species support differing faunas of Eurytomidae and *Puklina*. The *Bruchophagus* in *A. ramosus* (*aestivus* auct.) seeds in Sicily has six segments in the female antennal funicle, five in the male, whereas in specimens reared from *A. albus* in the French and Spanish Pyrénées the clava in both sexes has more or less 'captured' a funicle segment, and wing pilosity is white. The form of *E. asphodeli* in seeds of *A. cerasiferus* is larger and has more extensively red legs than *E. asphodeli* from *A. ramosus* and *A. albus*, and the *Bruchophagus* in *A. fistulosus* seeds is a species distinct from that found in other species of asphodel.

Nest materials and some physical characteristics of the nest of *Vespa orientalis* L., 1771 (Hymenoptera: Vespinae) in Turkey

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The species of Vespinae use pulp gathered from nearby environment to make their nest by chewing and mixing it with their saliva. In the plant material choice of social wasps, there is a significant variation: worn or fresh wood fiber, plant feathers, short plant scrapings, inorganic materials, etc. *Vespa* prefers dead parts of live trees and worn woods, and tree bark as their nest material. In addition to plant fiber, they also add soil and mud to their nests. According to the characteristics of nest location, there might be inorganic materials in *Vespa orientalis*'s nests. The selected material, the amount of salvia and chewing duration determine the physical features of the nest. In this study, we aim to determine the nest material and its physical features of a nest of *Vespa orientalis* in Nigde/Turkey.

The nest surface was monitored by stereomicroscope and Scanning Electron Microscope. The thickness of plant fibers was measured. An EDX analysis was carried out in order to determine the presence of structural organic and inorganic elements and their amount. The percentage of plant material and salvia in the structure of the nest was measured. The water absorption capacity of the nest was calculated and the relationship between the fiber thickness and the water absorption capacity was statistically analyzed.

Vespa orientalis constructed the nest inside the wall made by soil. At the nest, there was no envelope. At the comb, there are beige, yellowish and brownish linings. The plant fibers were observed to be short and thick at the images taken by Stereo Microscope and Scanning Electron Microscope. There are inorganic materials, especially soil, between the fibers. The average thickness of the fiber is 13,47 µm. It is founded in EDX analysis that the concentration of nitrogen is 18,75 % and of silicon higher than the other elements. The percentage of the fiber was calculated to be 20%, saliva 80%, and the water absorption