In order to achieve early detection of alien pests, there is a strong need to provide and improve methods to be used in surveillance by plant protection organisations, so that they become more efficient, cheaper and can be applied more widely to provide a consistent and reliable surveillance network. In this talk, we review the mostly commonly used methods to detect plant pests and associated diseases, and their applications at European level. More specifically, we address trap design, lure discovery, lure combination, generic lures, trap density and automatic detection for a few of the most important target insects such as wood beetles (Coleoptera) and whiteflies (Aleyrodidae) associated with plant pathogens. The use of the multi-lure approach associated with trap designs specific to the target organisms is presented and results about its application at ports of entry for detection and identification of alien species under both indoor and outdoor conditions are given. As the process of species introduction is commodity-driven, the trapping design should be linked as closely as possible to the type of commodity. We also present the development of an automatic trap, which registers catches of insects with a video camera and send them to a remote computer through mobile phone technology. Once the insects have been captured by the trap is necessary to identify them, or the microorganisms associated with them, quickly and on-site. For this reason we adopted the LAMP method, a molecular biology technique that doesnot require complex laboratory tools or reagents.

Notes on pelvic and hindlimb myology and syndesmology of *Emeus crassus* and *Dinornisrobustus* (Aves: Dinornithiformes)

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Dinornis robustus and *Emeus crassus* represent 2 branches of moa locomotor adaptations, Dinornis being more mobile. Nevertheless, the number and the position of their hindlimb muscles are almost identical. The only difference, related to the locomotor specializations is the development of particular muscles, related to the length of the leg elements. An overall hindlimb anatomy of species checked follows archetype, which is close to the proposed for the avian ancestor. In this way the hindlimb anatomy and syndesmology of moa resemble that of ancestral palaeognaths Tinamiformes, as well as geographically close Apterygiformes and Casuariiformes. There were, however, certain traits in hindlimb morphology, which would characterize solely Dinornithiformes. First is an enormous development of m. iliofemoralis externus, by far surpassing in bulk this muscle in other birds. Generally reduced in other birds, this muscle abducts the femur, thus preventing the passive adduction of this bone during one leg supported locomotor phase. As the massive ratites with wide pelves, moa must have exerted the maximal power of femoral abductors (m. iliofemoralis externus, m. iliotibialis lateralis pars acetabularis) to keep the body balanced on one leg. The changes in the center of gravity, proposed for moa in comparison to other birds and that of Dinornis in relation to other moa, does not have anatomical support. Proceeding from the position of antitrochanter, femora of moa were in the same position as in other cursorial birds. Thus their center of gravity must have resided on the line linking both knee joints. The other difference, unique for moa (although additional observations on mummies are desirable), is an unusual insertion of m. iliofemoralis internus. Inserting just distally to the femoral neck on the anterior surface of femoral shaft, it thus must have changed its function of weak outward rotator of femur. The significance of this shift is unclear. Of other pelvic muscles m. iliofemoralis have unusually long attachment on the posterior surface of the femoral shaft, feature, observed outside of Dinornithiformes only in *Apteryx*. Femoral and tibiotarsal muscles are well-developed, which is expected for cursorial birds. Traces of their origin on femur are more pronounced in *Emeus crassus*, feature, which is, however, not related to the degree of femoral muscles development. Muscles of the shank in moa were long-bellied, as in kiwi. The graviportality does not pose the strong requirements to lighten the distal segments of the limb, as in cursorial birds. Thus cnemial crests of moa are relatively smaller; the bulk of the shank muscles was more evenly distributed along the length of tibiotarsus. Most of the shank muscles, including powerful mm. gastrocnemii, started on the common aponeuroses, configuration of which was similar to that in the majority of birds. Movements in intertarsal joint, which lacked lig. anticum and its stabilizer, m. fibularis brevis, were restricted by flexion-extension, as in many specialized cursorial birds, including Ratitae. Relative length of tarsometatarsus is greater in Dinornis, which corresponds to its greater mobility. Although the majority of the intrinsic muscles must have been preserved in moa, their relative development is difficult to assess due to the faintness of traces, they lived on the tarsometatarsus. Abductors of digiti 2 and 4 and extensors of the third and fourth were slender and long, corresponding to the length of the tarsometatarsus. Terminal tendons of the long digital flexors to the second toe were, at least in *Dinornis robustus*, markedly separated from those to the other foretoes. This feature might indicate, that the second toe have once played a major role in scratching and digging, reported as one of the activities of moa in obtaining the food.

On ethics, the pursuit of knowledge, truth and status in the hallowed halls of academe

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Advancement in academe is largely on the basis of research outputs, i.e. refereed journal papers. This paper firstly explores pressures on academics, especially emerging researchers, when English is not a first language. We assess why, when faculty members rush to improve their station, they may elect to circumvent ethical protocols to accelerate their promotion and status. The resulting unethical behaviour includes plagiarism and other forms of duplication, such as co-submission. Consideration is then given to the wider implications of both plagiarism and the theft of intellectual property – and the role these have played in the development of individuals, the university and society.

Origin and early radiation of jawed vertebrates

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An emerging focus in paleontology and developmental biology concerns the origin and early radiation of gnathostomes, or jawed vertebrates, partly thanks to the expanding fossil record and its intersection with developmental biology-based hypotheses. Recent study on the cranial anatomy of galeaspids, a 435–370-million-year-old jawless group from China and northern Vietnam, has provided the earliest fossil evidence for the disassociation of nasohypophyseal complex in vertebrate phylogeny, a condition that current developmental models regard as prerequisites for the developmental of jaws. The past 2 decades have also seen the inspiring discoveries of primitive gnathostomes from the Silurian and Early Devonian, expanding the diversity and disparity in early gnathostome groups. Some of these finds have yielded an unexpected mosaic of characters for inferring the sequence of character transformation at the root of osteichthyans, and at the root of jawed vertebrates in general. Among these finds, the gnathostome taxa from the Silurian Xiaoxiang Fauna of China push the early radiation of jawed vertebrates well before the advent of the Devonian 'Age of Fishes'. The research on the Xiaoxiang Fauna will significantly improve our understandings of early diversification of gnathostomes, especially when the morphological repertoire of acanthodians and the various primitive placoderms can be fully deciphered and analyzed in light of the new paradigm regarding the origin of osteichthyans from non-osteichthyan groups.

Origin and evolution of birds: combining paleontological and developmental evidence

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The last 2 decades have witnessed great advances in research on the origin and early evolution of birds. These advances have come from both paleontological and neontological studies, and have included discoveries of new specimens of both non-avian dinosaurs and basal birds that have provided significant osteological and even behavorial information, analyses of bone and eggshell microstructure to make inferences about growth strategy and physiology in non-avian dinosaurs