

1. Record Nr.	UNINA9910825070403321
Autore	Schoch Rainer R. <1970->
Titolo	Amphibian evolution : the life of early land vertebrates // Rainer R. Schoch
Pubbl/distr/stampa	Chichester, West Sussex, United Kingdom : , : John Wiley & Sons, , 2014 ©2014
ISBN	1-118-75912-5 1-118-75913-3 1-118-75915-X
Descrizione fisica	1 online resource (294 p.)
Collana	TOPA Topics in Paleobiology
Disciplina	567/.8
Soggetti	Amphibians, Fossil Paleobiology Amphibians - Evolution
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Amphibian Evolution: The Life of Early Land Vertebrates; Copyright; Contents; Preface; Acknowledgments; 1 Introduction; 1.1 Changing paradigms in amphibian evolution; 1.2 Paleobiology: data, methods, and time scales; 1.3 Concepts and metaphors: how scientists "figure out" problems; 1.4 Characters and phylogenies; 1.5 What's in a name?; References; 2 The Amphibian World: Now and Then; 2.1 Tetrapoda; 2.1.1 The tetrapod skeleton; 2.1.2 Tetrapod characters; 2.1.3 Stem-tetrapods (Tetrapodomorpha); 2.1.4 Carboniferous tetrapods or tetrapodomorphs?; 2.2 The amniote stem-group; 2.2.1 Anthracosauria 2.2.2 Seymouriamorpha 2.2.3 Chroniosuchia; 2.2.4 Lepospondyli; 2.2.4.1 Lepospondyl characters; 2.2.4.2 Microsauria; 2.2.4.3 Lysorophia; 2.2.4.4 Nectridea; 2.2.4.5 Aistopoda; 2.2.4.6 Adelospondyli; 2.2.4.7 Acherontiscidae; 2.2.5 Gephyrostegida; 2.2.6 Amniota; 2.2.6.1 Stem-amniotes and early crown amniotes; 2.3 The lissamphibian stem-group (Temnospondyli); 2.3.1 Edopoidea; 2.3.2 Dendrerpeton and Balanerpeton; 2.3.3 Dvinosauria; 2.3.4 Dissorophoidea and Zatracheidae; 2.3.5 Eryopoidea; 2.3.6 Stereospondyli; 2.4 Albanerpetontidae; 2.5 Lissamphibia; 2.5.1

Lissamphibian characters; 2.5.2 Batrachia
2.5.2.1 Anura (frogs and toads) 2.5.2.2 Caudata (salamanders); 2.5.2.3
Gymnophiona (caecilians); References; 3 Amphibian Life Through Time;
3.1 Aquatic predators prepare for land; 3.2 Hot springs, scorpions, and
little creepers; 3.3 Life in the tropical coal forest; 3.4 Neotenes explore
unfavorable waters; 3.5 Lowlands, uplands, and a cave; 3.6 Hide and
protect: extreme life in the hothouse; 3.7 Predators in deltas, lakes,
and brackish swamps; 3.8 Stereospondyls in refugia, lissamphibians on
the rise; 3.9 Batrachians diversify, stereospondyls disappear
3.10 Lissamphibians expand into diverse habitats References; 4 The
Amphibian Soft Body; 4.1 How to infer soft tissues in extinct taxa; 4.2
Fossil evidence: soft tissue preservation; 4.3 Head and visceral
skeleton; 4.4 Respiratory organs; 4.5 Lateral lines, electroreception,
and ears; References; 5 Evolution of Functional Systems; 5.1 How
paradigms and brackets give a functional scenario; 5.2 Feeding and
breathing under water; 5.3 Decoupling breathing and feeding; 5.4
Hearing: exapting the spiracle and hyomandibula; 5.5 Respiration in
early tetrapods; 5.6 The evolution of terrestrial feeding
5.7 Transforming fins into limbs 5.8 Locomotion of Paleozoic tetrapods;
References; 6 Development and Evolution; 6.1 Ontogeny in modern
amphibians; 6.2 Fossil ontogenies; 6.3 Ontogeny as a sequence:
developmental trajectories; 6.4 Histology: the skeleton as archive; 6.5
Changing shape: allometry; 6.6 Heterochrony: the evolution of
development; 6.7 Body plans: gene regulation and morphogenesis;
References; 7 Paleoecology; 7.1 Lissamphibian ecology; 7.2
Paleoecology: problems and perspectives; 7.3 Paleozoic and Mesozoic
amphibians; 7.4 Amphibian evolution as a walk through trophic levels
References

Sommario/riassunto

This book focuses on the first vertebrates to conquer land and their long journey to become fully independent from the water. It traces the origin of tetrapod features and tries to explain how and why they transformed into organs that permit life on land. Although the major frame of the topic lies in the past 370 million years and necessarily deals with many fossils, it is far from restricted to paleontology. The aim is to achieve a comprehensive picture of amphibian evolution. It focuses on major questions in current paleobiology: how diverse were the early tetrapods? In which environments
