



“Nature’s Calendar”, a modular phenological smart phone app for collection of phenological observations by citizen scientists

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The collection of phenological observations through volunteers or citizen scientists (CS) in Austria dates back to 1851, where the first phenological network was organised by Karl Kreil, the director of the newly founded Austrian national weather service. Phenological data collection has always relied on volunteer observers, who were willing to regularly visit their selected plants and places, working with pencil and paper, filling in and sending the observational sheets to the national weather service. This traditional way of phenological data collection has been challenged by a number not well known sociological factors, which altogether caused a dramatic drop in observations from about 1950 to 1995 in Austria. As a first step to appeal to new observers the web – portal for entering phenological observations was opened to the public in 2006, with some but insufficient effect. The recent development of mobile smartphones have a great potential to increase the stream of phenological observations. Thereby means have become available, which in fact have already facilitated CS ecological data collection enormously.

In a cooperation between SPOTTERON, LACON and ZAMG the smart phone app “Nature’s Calendar” has been created. The app has been released in spring 2018 for Android and IOS, along with an interactive map for desktop users on www.naturkalender.at. It is not just an app, but an app system, which allows to create apps for a range of individual citizen science applications with minimal effort. New features implemented for one application can easily be transferred to other applications. Amongst others it offers instruments for communication between the network operator and observers (push messages), for communication within the observer community and to upload photographs. The extensive observational manual with detailed descriptions of species and phenological phases can be found on the Naturkalender home page (www.naturkalender.at).