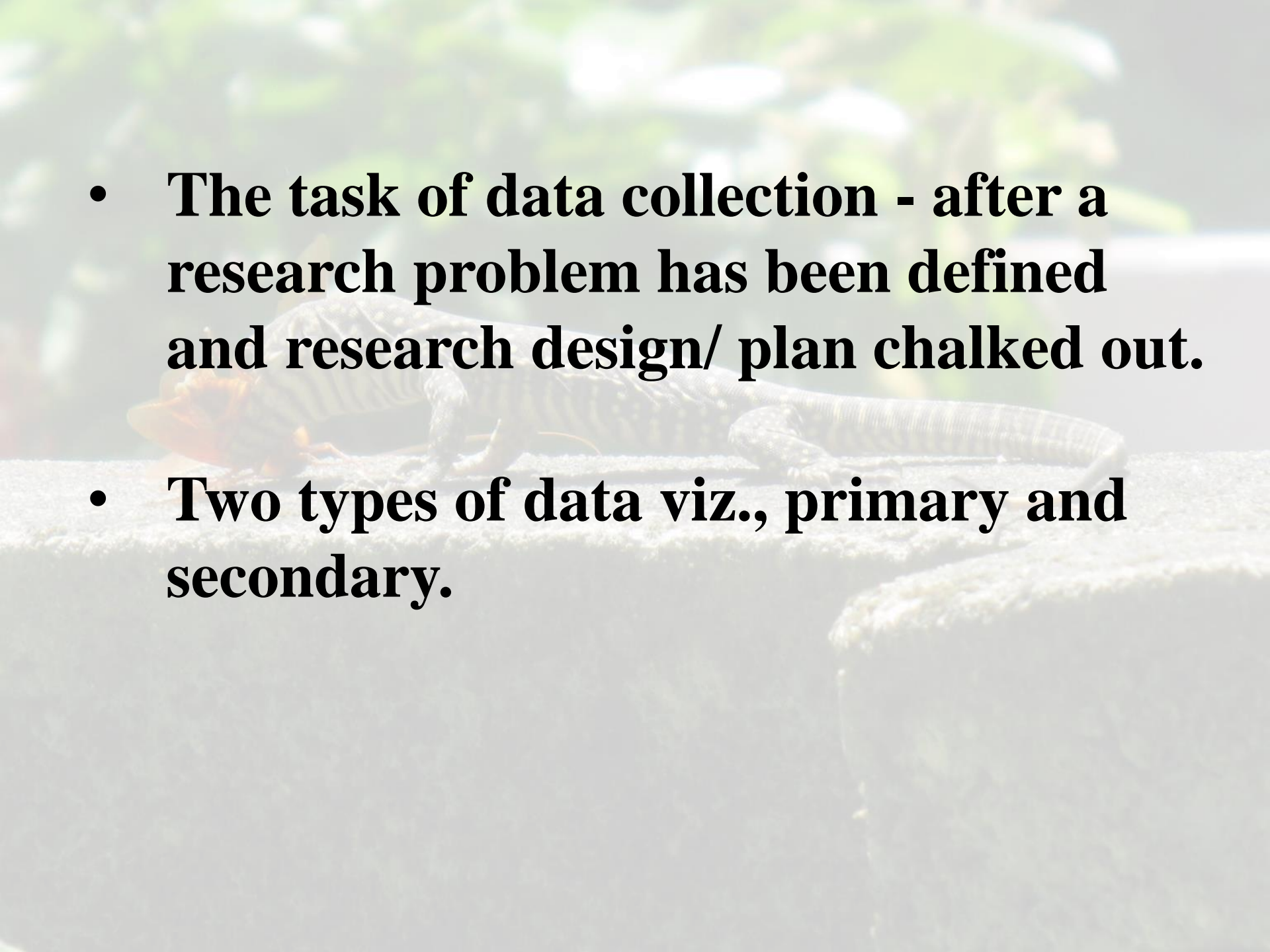
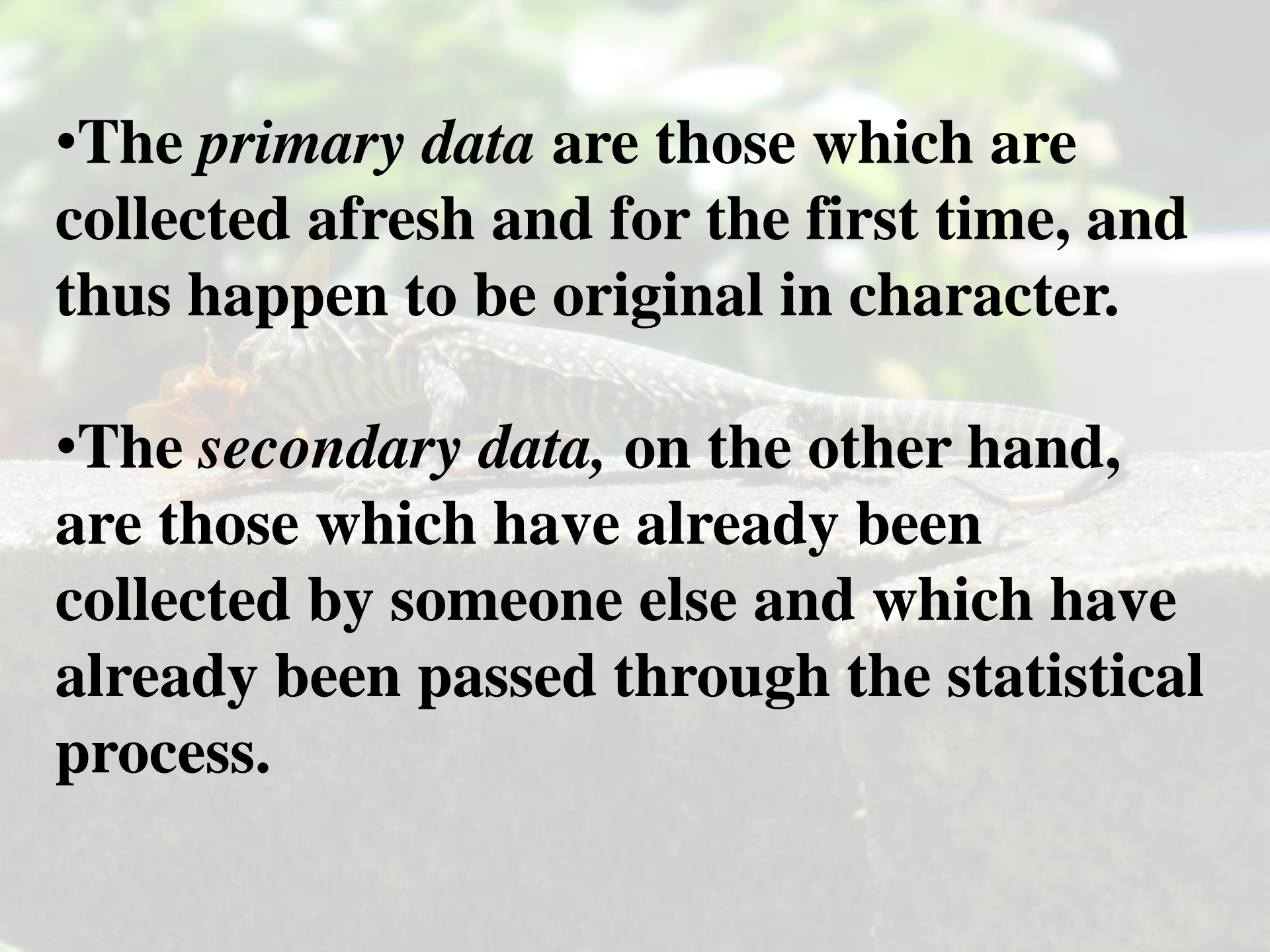


A photograph of a lizard with a dark, patterned body and a long tail, perched on a concrete ledge. The lizard is facing left and is in the process of eating a large, orange cricket. The background is a blurred green, suggesting foliage. The text "Module - 6" and "DATA COLLECTION" is overlaid on the image in a bold, black, serif font.

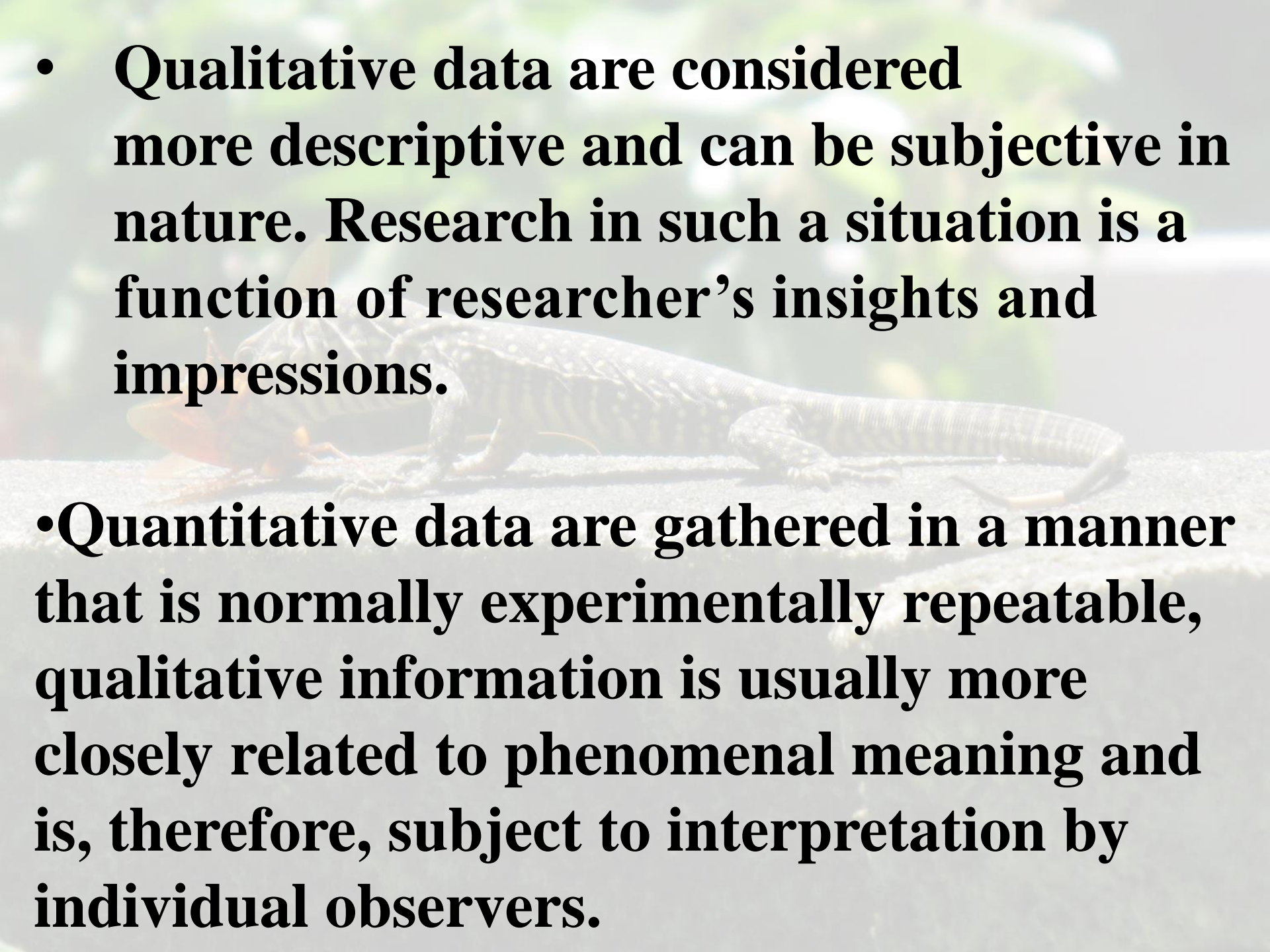
**Module - 6**  
**DATA COLLECTION**

- 
- A gecko with a patterned body and a bright orange head is resting on a light-colored, textured rock. The background is a soft, out-of-focus green, suggesting a natural outdoor setting. The text is overlaid on the image in a bold, black, sans-serif font.
- **The task of data collection - after a research problem has been defined and research design/ plan chalked out.**
  - **Two types of data viz., primary and secondary.**



•The *primary data* are those which are collected afresh and for the first time, and thus happen to be original in character.

•The *secondary data*, on the other hand, are those which have already been collected by someone else and which have already been passed through the statistical process.

A large lizard, possibly a Komodo dragon, is resting on a sandy surface. The lizard is positioned horizontally across the middle of the frame, facing left. Its body is dark with lighter spots, and its tail is long and thick. The background is a blurred, natural outdoor setting with green foliage and a bright sky. The text is overlaid on the image in a bold, black, sans-serif font.

- **Qualitative data are considered more descriptive and can be subjective in nature. Research in such a situation is a function of researcher's insights and impressions.**

- **Quantitative data are gathered in a manner that is normally experimentally repeatable, qualitative information is usually more closely related to phenomenal meaning and is, therefore, subject to interpretation by individual observers.**

# **Data collection techniques**

A green iguana is resting on a stone ledge. The background is a blurred green, suggesting foliage. The iguana is facing left, with its tail extending to the right. The stone ledge is light-colored and textured.

**1. Interviews**

**2. Questionnaires and Surveys**

**3. Observations**

**4. Ethnographies, Oral History, and  
Case Studies**

**5. Documents and Records**

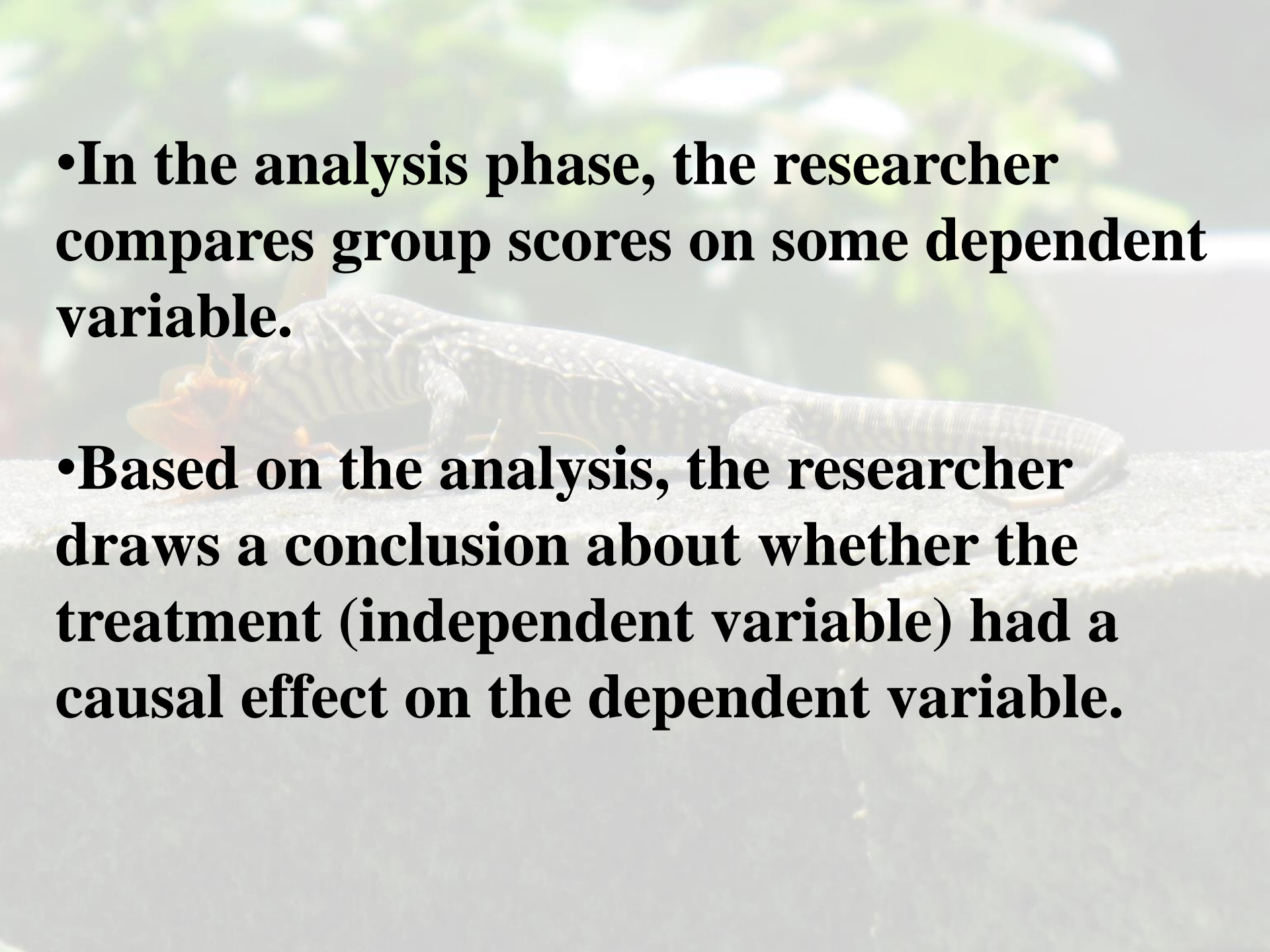
# **Collection of Primary Data**

**We collect primary data during the course of doing experiments in an experimental research but in case of the descriptive type and perform surveys, then we can obtain primary data either through observation or through direct communication with respondents in one form or another or through personal interviews.**

## **Experiments**

**• "An experiment is a research process in which, one or more variables are manipulated under conditions that permit the collection of data that show the effects, if any, of such variables in an unconfused fashion."**

**• The study is "controlled" in the sense that the researcher controls (1) how subjects are assigned to groups and (2) which treatments each group receives.**

A green lizard is shown in profile, eating a cricket on a light-colored rock. The background is a blurred green forest. The text is overlaid on the image in a bold, black, sans-serif font.

**•In the analysis phase, the researcher compares group scores on some dependent variable.**

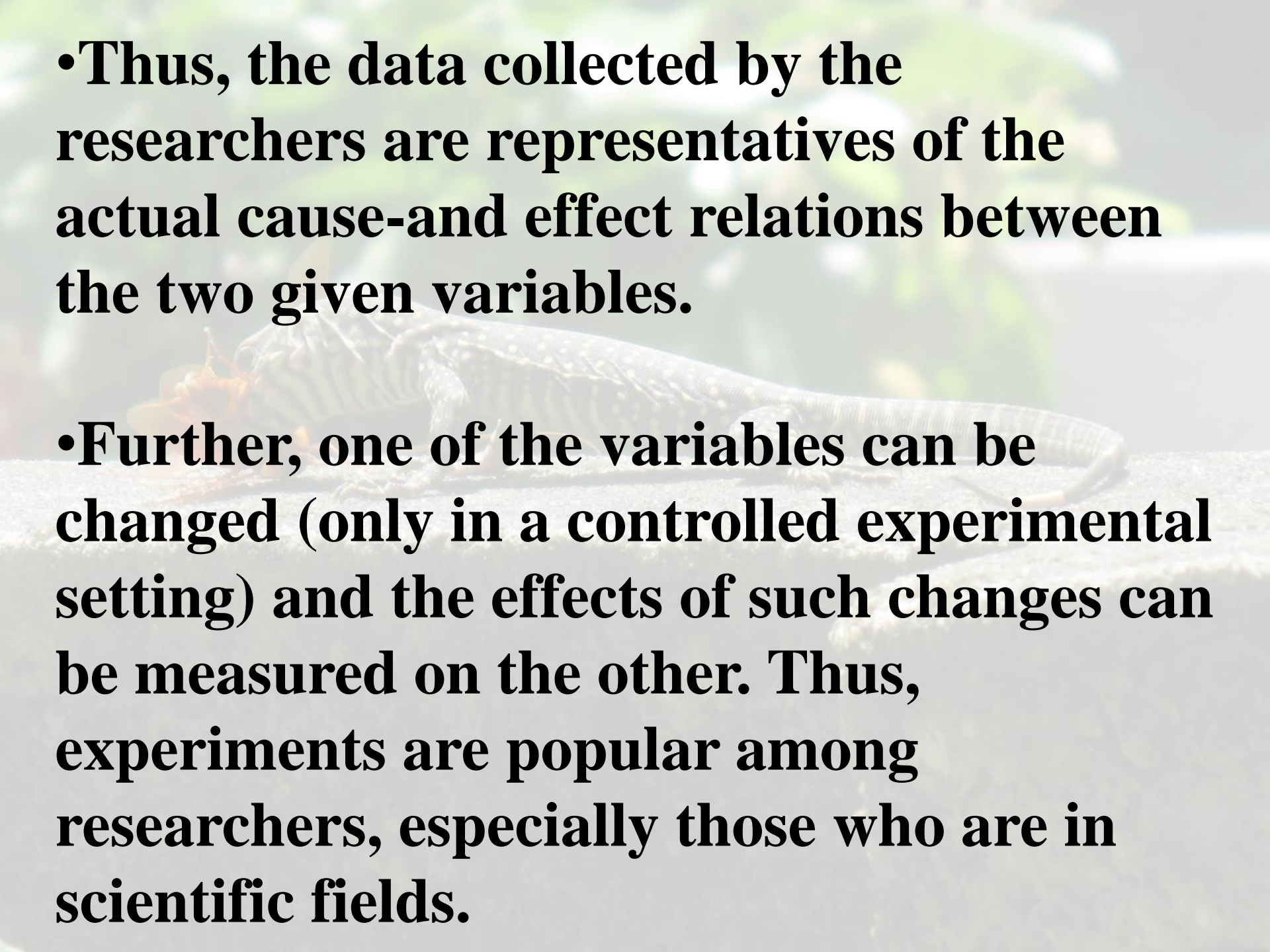
**•Based on the analysis, the researcher draws a conclusion about whether the treatment (independent variable) had a causal effect on the dependent variable.**





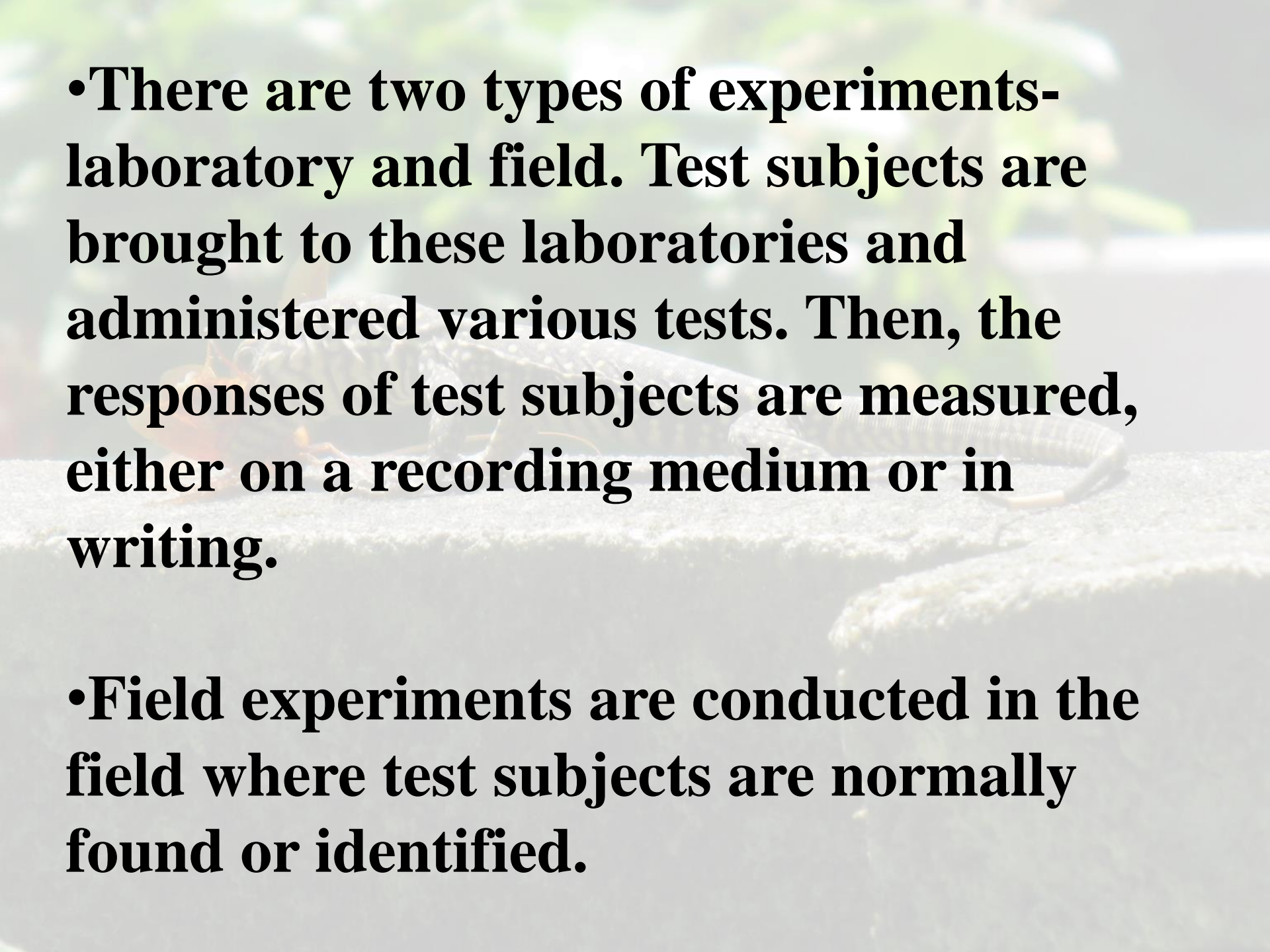
**• Experimental data in science are data produced by a measurement, test method, experimental design.**

**• This method has the advantage that researchers can analyse the actual cause-and-effect relations between any two variables that are pertinent to the research. Other variables are either not present or are present to the minimum extent.**

A green iguana is resting on a light-colored rock. A small, orange and black insect is perched on the iguana's head. The background is a soft-focus green, suggesting a natural outdoor setting.

**• Thus, the data collected by the researchers are representatives of the actual cause-and effect relations between the two given variables.**

**• Further, one of the variables can be changed (only in a controlled experimental setting) and the effects of such changes can be measured on the other. Thus, experiments are popular among researchers, especially those who are in scientific fields.**

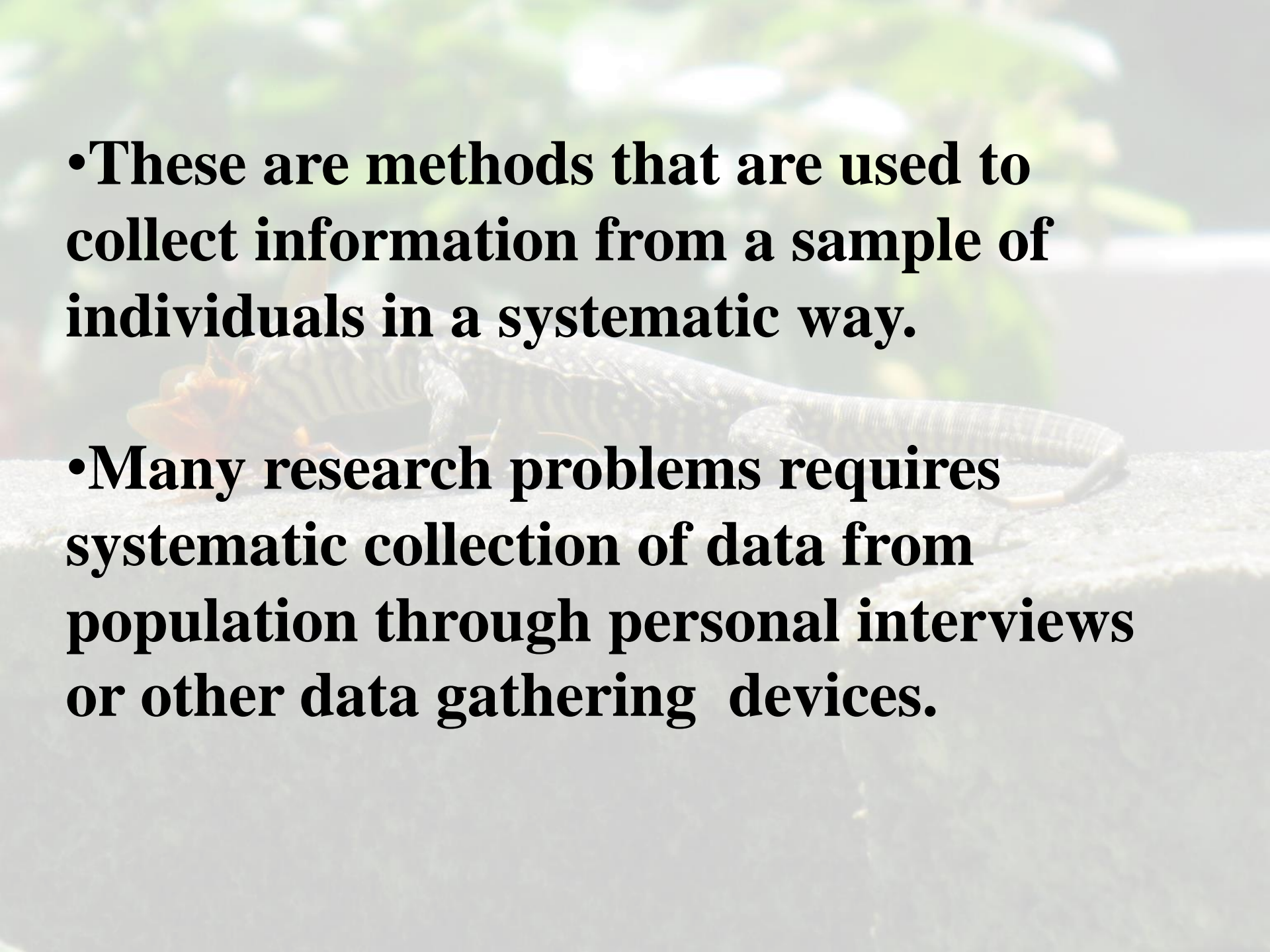
A background image of a lizard, possibly a spiny-tailed lizard, resting on a light-colored, textured branch. The lizard is facing left, with its body and tail extending towards the right. The background is a soft-focus green, suggesting a natural outdoor setting.

**•There are two types of experiments- laboratory and field. Test subjects are brought to these laboratories and administered various tests. Then, the responses of test subjects are measured, either on a recording medium or in writing.**

**•Field experiments are conducted in the field where test subjects are normally found or identified.**

# Surveys

- **One of the common methods of diagnosing & solving social problems is that of undertaking surveys.**
- **In sample surveys or census surveys, then we can obtain primary data either through observation or through direct communication with respondents or through personal interviews**



**•These are methods that are used to collect information from a sample of individuals in a systematic way.**

**•Many research problems requires systematic collection of data from population through personal interviews or other data gathering devices.**

**•There are several ways of administering a survey.**

**•The choice between administration modes is influenced by several factors, including**

**1)costs**

**2)coverage of the target population**

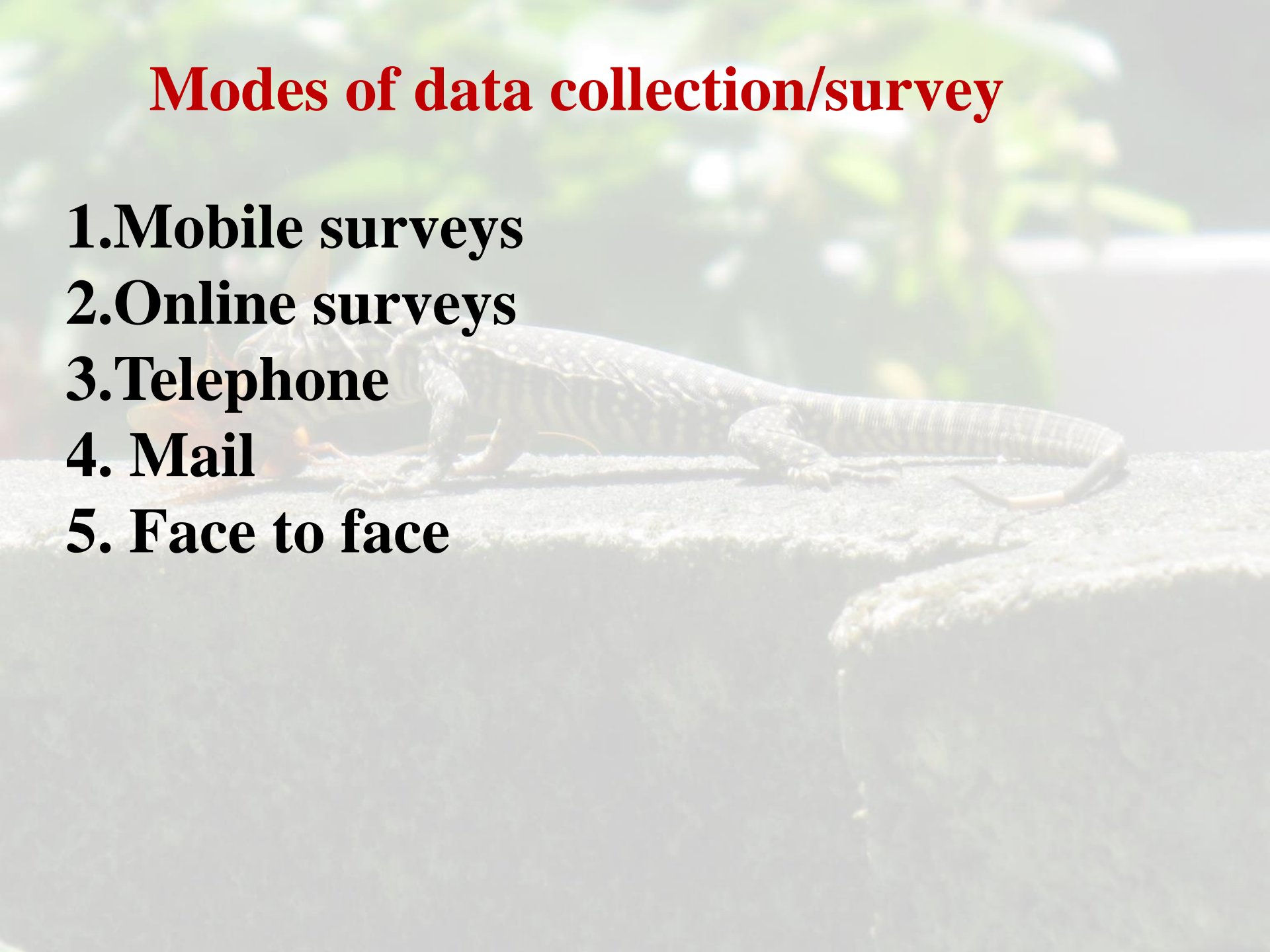
**3) flexibility of asking questions**

**4)respondents' willingness to participate**

**5) response accuracy**

# **Modes of data collection/survey**

- 1. Mobile surveys**
- 2. Online surveys**
- 3. Telephone**
- 4. Mail**
- 5. Face to face**



A green iguana is resting on a light-colored log in a forest. The background is a soft-focus green, suggesting foliage. The iguana's body is covered in small, dark spots and has a long, thin tail.

**• Mobile surveys and online surveys are gaining more importance and is an increasingly popular method of data collection.**

**• Over 50% of surveys today are opened on mobile devices. Online (Internet) surveys are becoming an essential research tool for a variety of research fields, including marketing, social and official statistics research.**



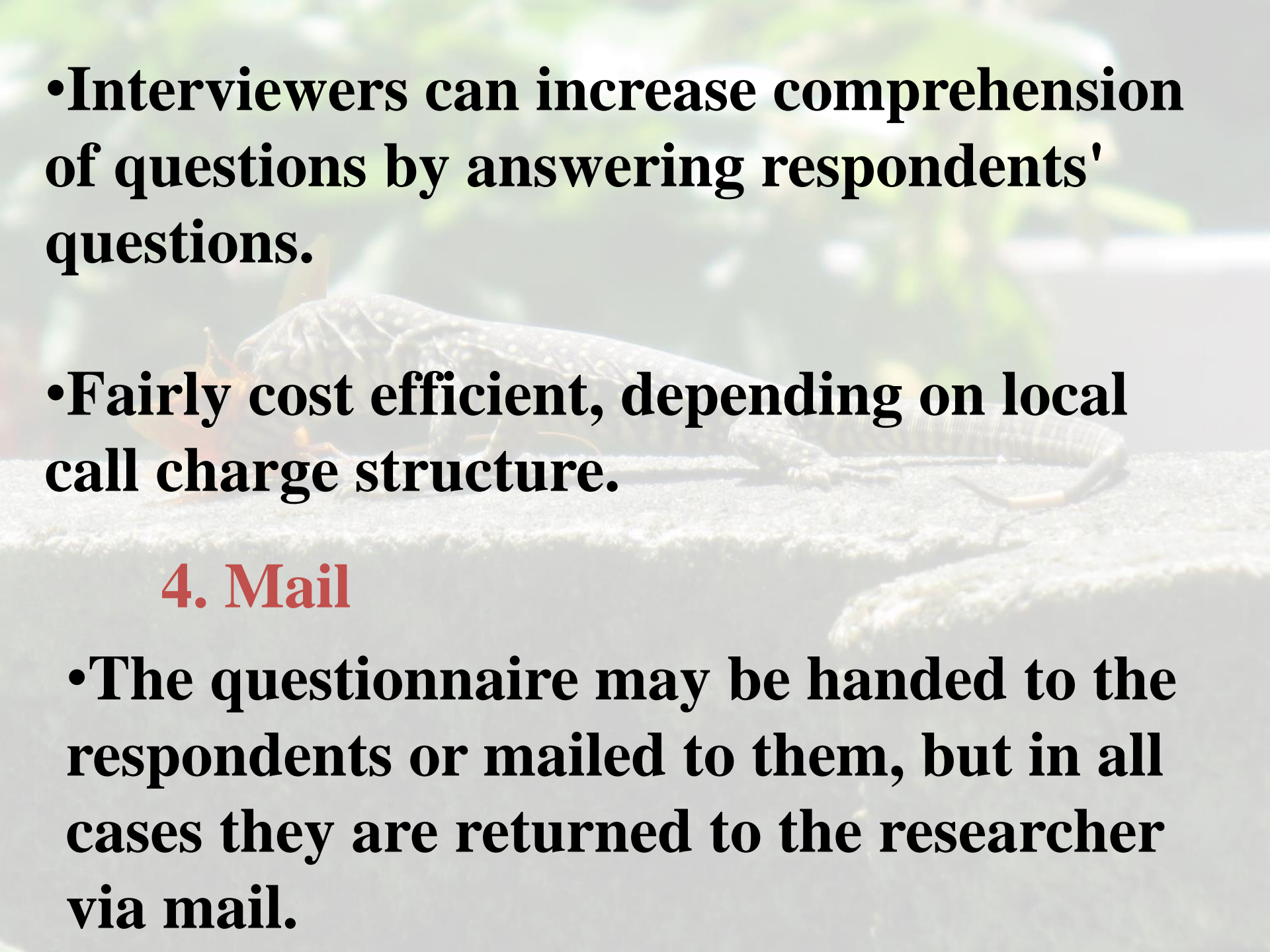
## **Advantages of online surveys**

- **Web surveys are faster, simpler, and cheaper.**
- **The entire data collection period is significantly shortened, as all data can be collected and processed in little more than a month.**
- **Interaction between the respondent and the questionnaire is more dynamic compared to e-mail or paper surveys.**

**•Pop-up instructions can be provided for individual questions to provide help with questions exactly where assistance is required**

### **3. Telephone**

**•Use of interviewers encourages sample persons to respond, leading to higher response rates.**

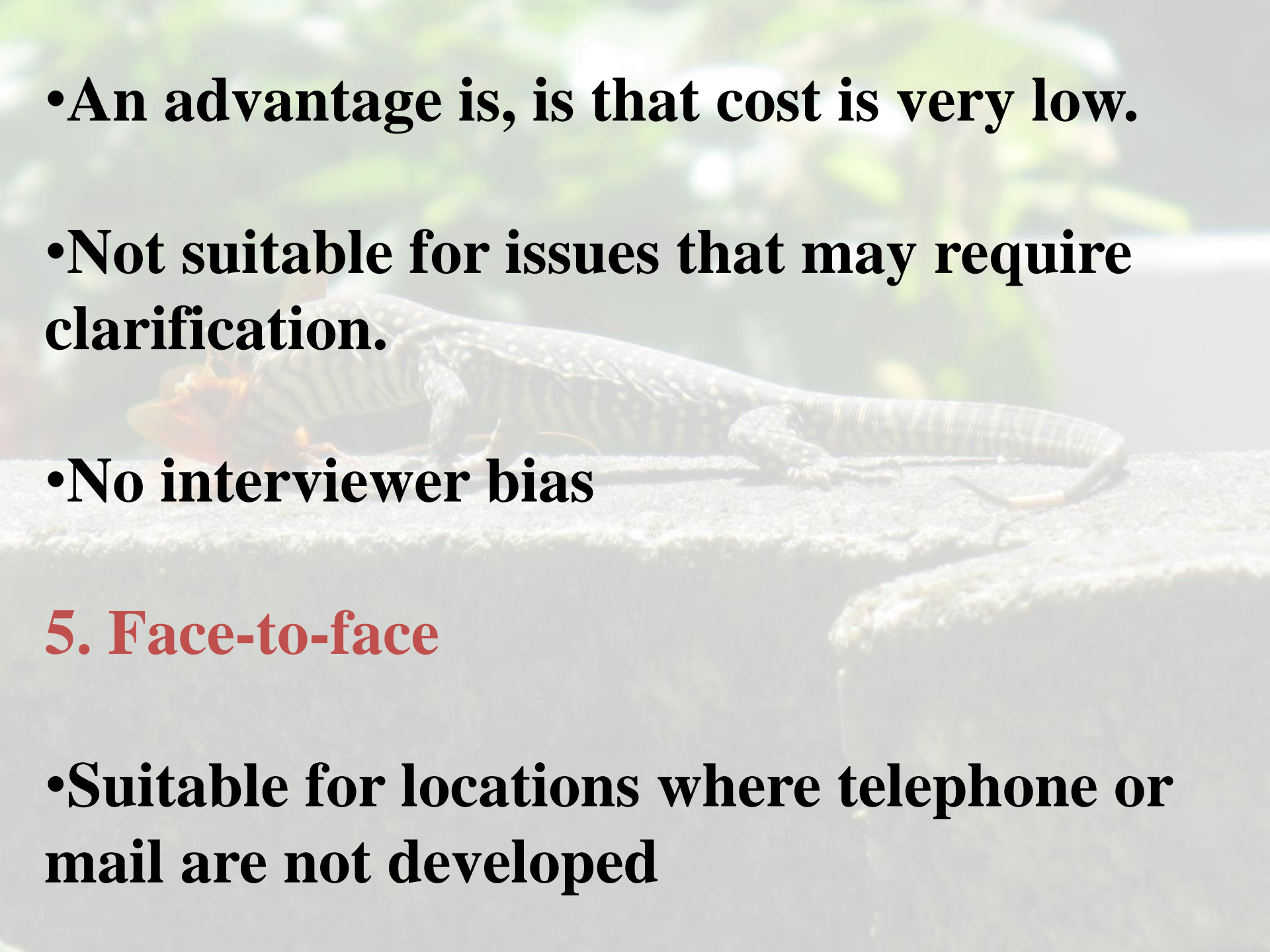
A background image of a lizard, possibly a spiny-tailed lizard, resting on a light-colored rock. The lizard is facing left and has its body stretched out. The background is a soft-focus green, suggesting foliage.

- **Interviewers can increase comprehension of questions by answering respondents' questions.**

- **Fairly cost efficient, depending on local call charge structure.**

#### **4. Mail**

- **The questionnaire may be handed to the respondents or mailed to them, but in all cases they are returned to the researcher via mail.**

- 
- A photograph of a lizard, possibly a spiny-tailed lizard, resting on a light-colored, textured rock. The lizard is facing left and has a long, thin tail. The background is a soft-focus green, suggesting a natural outdoor setting. The text is overlaid on the image in a bold, black, sans-serif font.
- **An advantage is, is that cost is very low.**
  - **Not suitable for issues that may require clarification.**
  - **No interviewer bias**

## **5. Face-to-face**

- **Suitable for locations where telephone or mail are not developed**

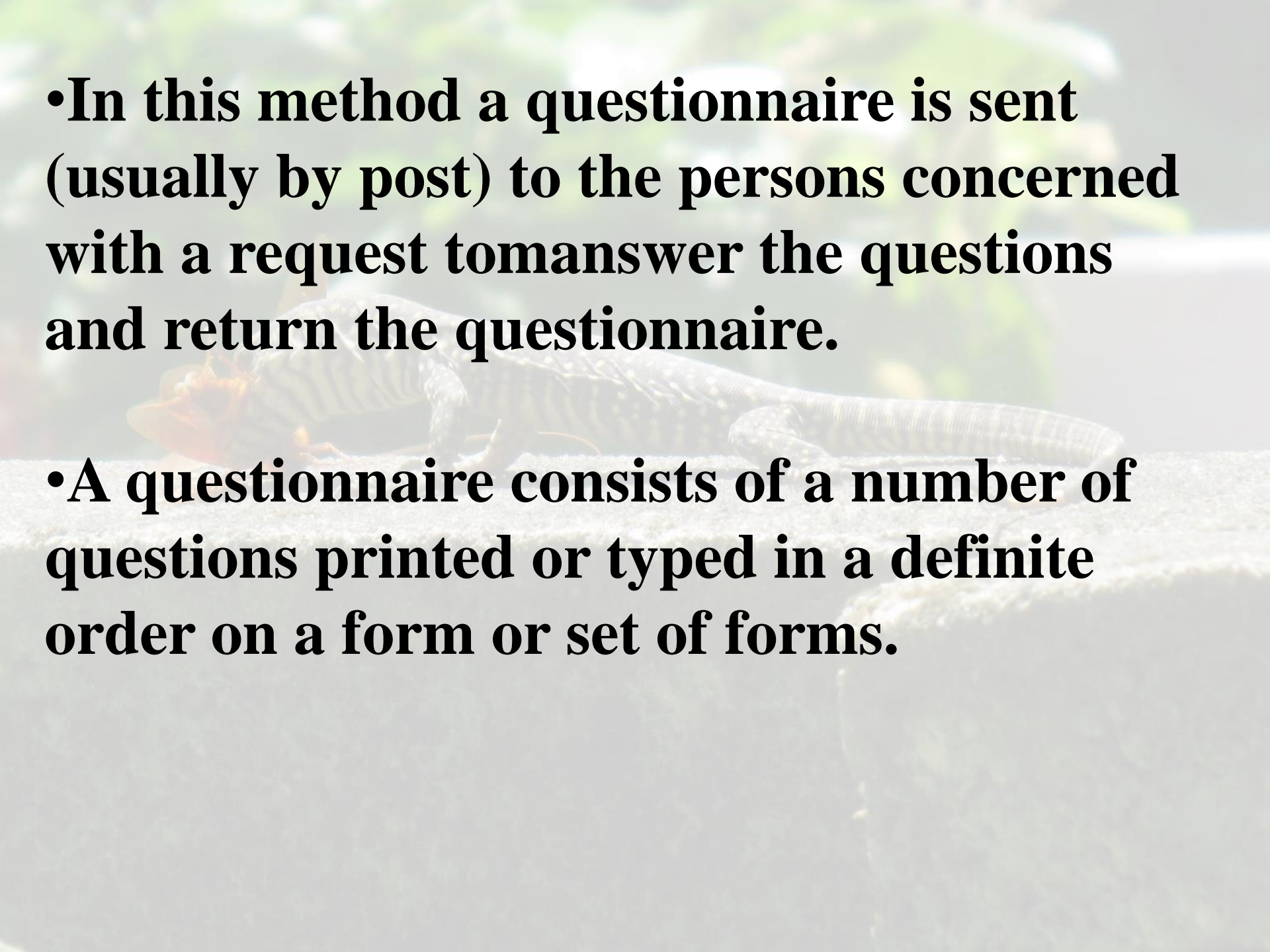
- 
- A green iguana is resting on a stone ledge. The background is a blurred green landscape with trees and foliage. The text is overlaid on the left side of the image.
- **Potential for interviewer bias**
  - **Easy to manipulate by completing multiple times to skew results.**
  - **field staff is required.**

# Collection of Data Through Questionnaires

A green iguana is resting on a concrete ledge. The background is a blurred green and white, suggesting an outdoor setting with foliage and light.

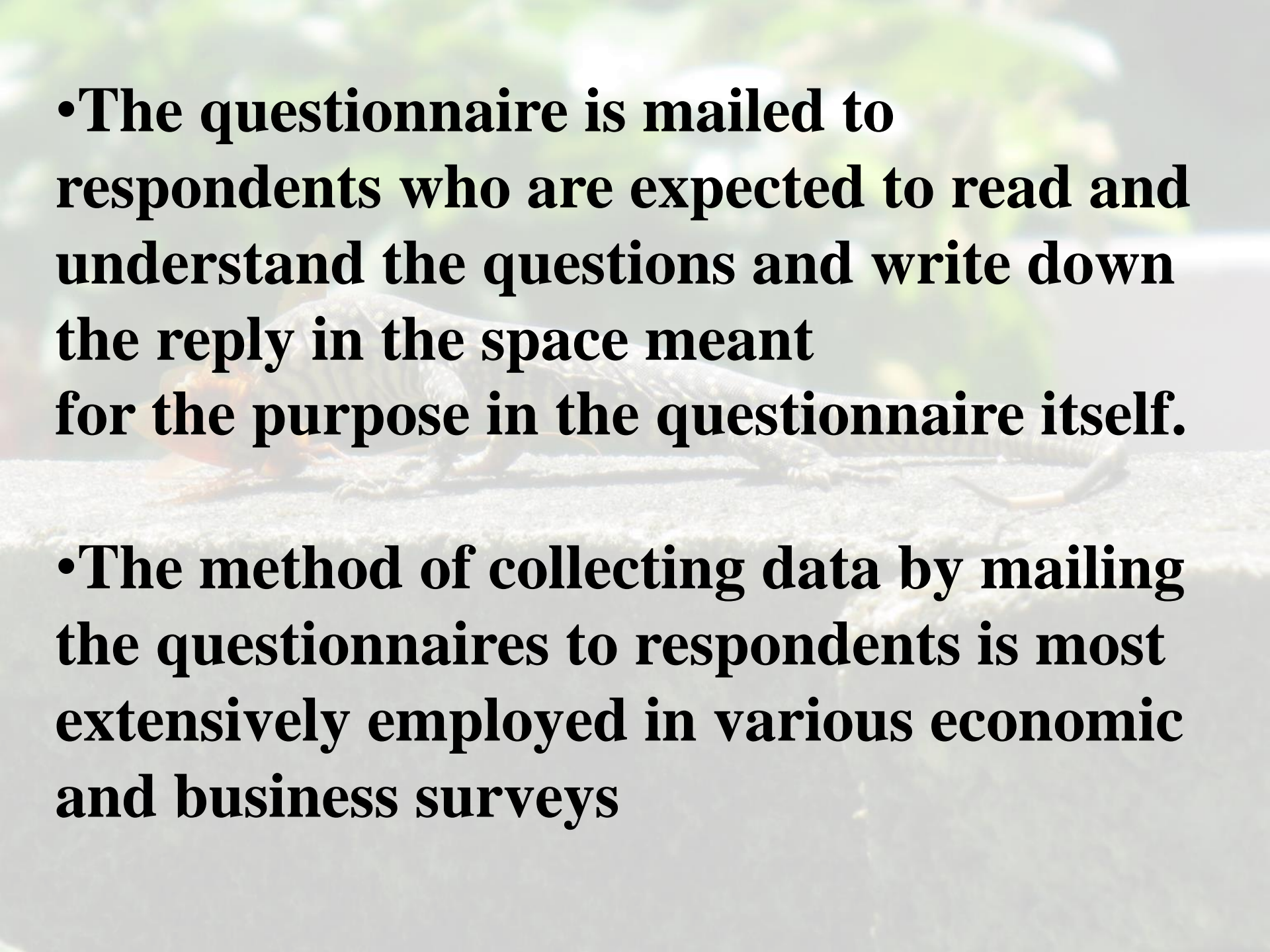
- This method of data collection is quite popular, particularly in case of big enquiries.

- It is being adopted by private individuals, research workers, private and public organisations and even by governments.



**•In this method a questionnaire is sent (usually by post) to the persons concerned with a request to answer the questions and return the questionnaire.**

**•A questionnaire consists of a number of questions printed or typed in a definite order on a form or set of forms.**

A person is lying on their stomach on a sandy beach. A large lizard is resting on their back. The background shows a blurred view of the ocean and greenery.

**•The questionnaire is mailed to respondents who are expected to read and understand the questions and write down the reply in the space meant for the purpose in the questionnaire itself.**

**•The method of collecting data by mailing the questionnaires to respondents is most extensively employed in various economic and business surveys**



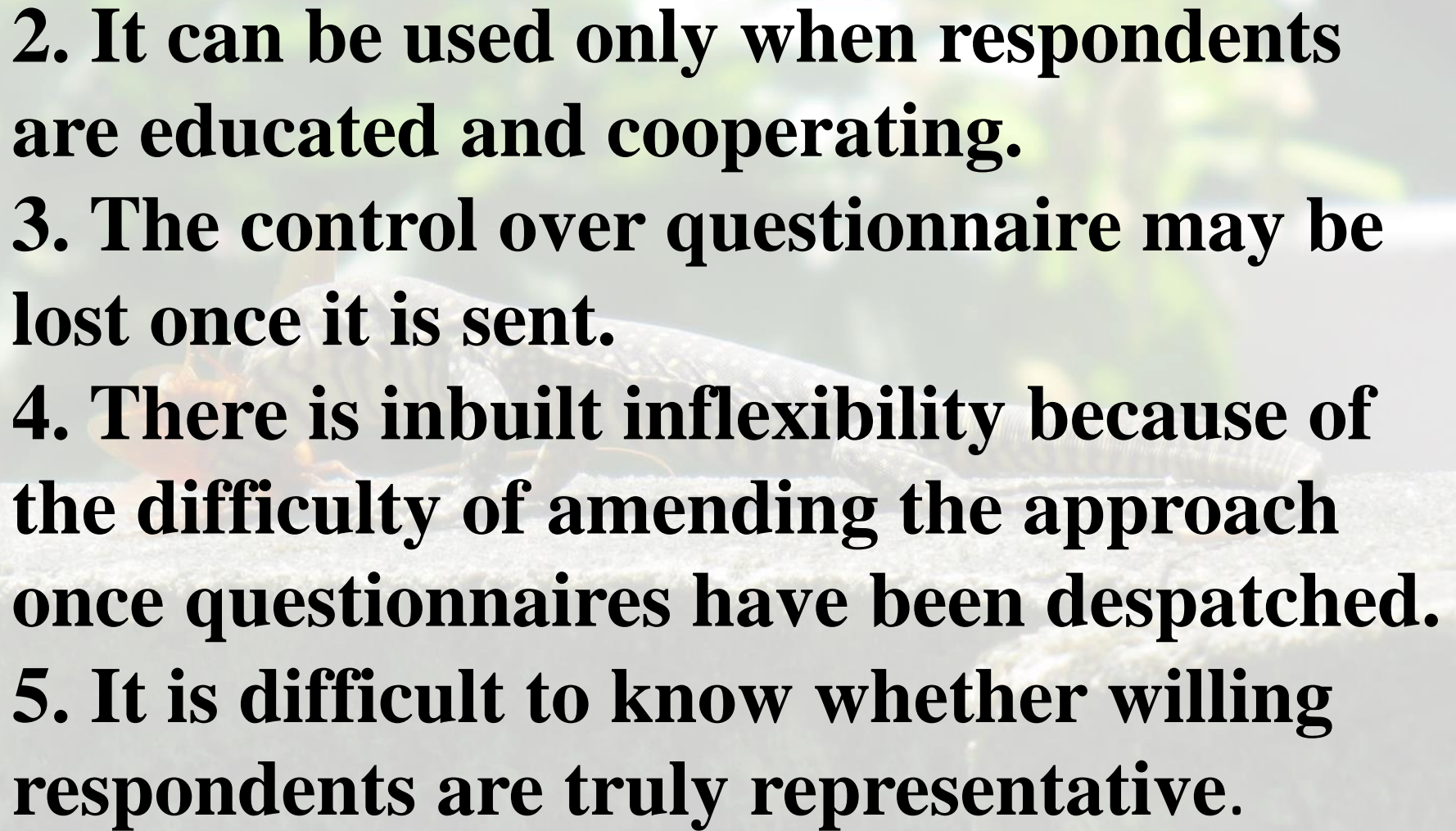
**The merits claimed on behalf of this method are as follows:**

- 1. Low cost**
- 2. Free from the bias of the interviewer; answers are in respondents' own words.**
- 3. Respondents have adequate time to give well thought out answers.**
- 4. Respondents, who are not easily approachable, can also be reached conveniently.**

**5. Large samples can be made use of and thus the results can be made more dependable and reliable.**

**The main demerits of this system can also be listed here:**

**1. Low rate of return of the duly filled in questionnaires; bias due to no-response is often indeterminate.**

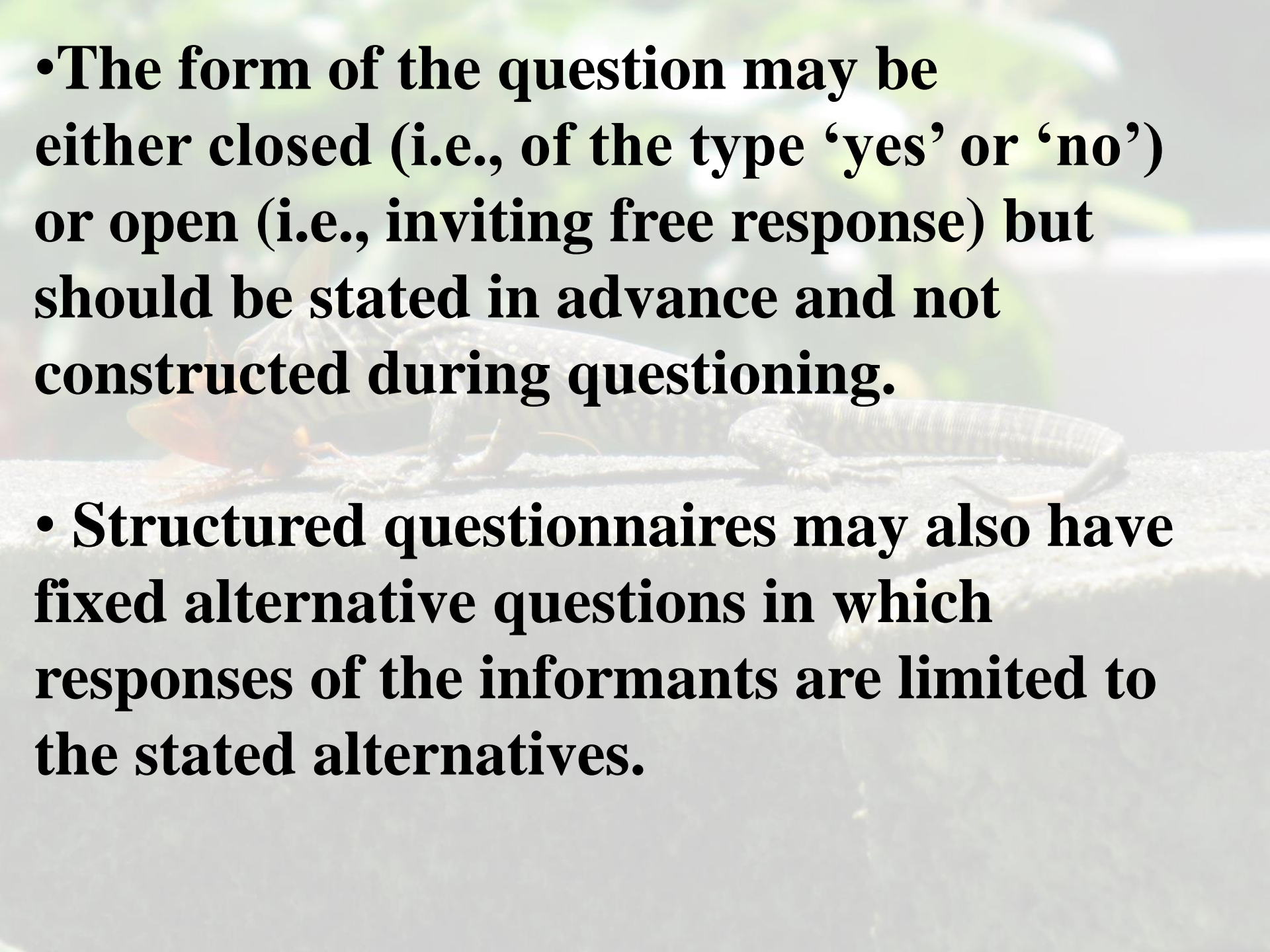
- 
- 2. It can be used only when respondents are educated and cooperating.**
  - 3. The control over questionnaire may be lost once it is sent.**
  - 4. There is inbuilt inflexibility because of the difficulty of amending the approach once questionnaires have been despatched.**
  - 5. It is difficult to know whether willing respondents are truly representative.**

**Before using this method, it is always advisable to conduct ‘pilot study’ (Pilot Survey) for testing the questionnaires.**

*Main aspects of a questionnaire*

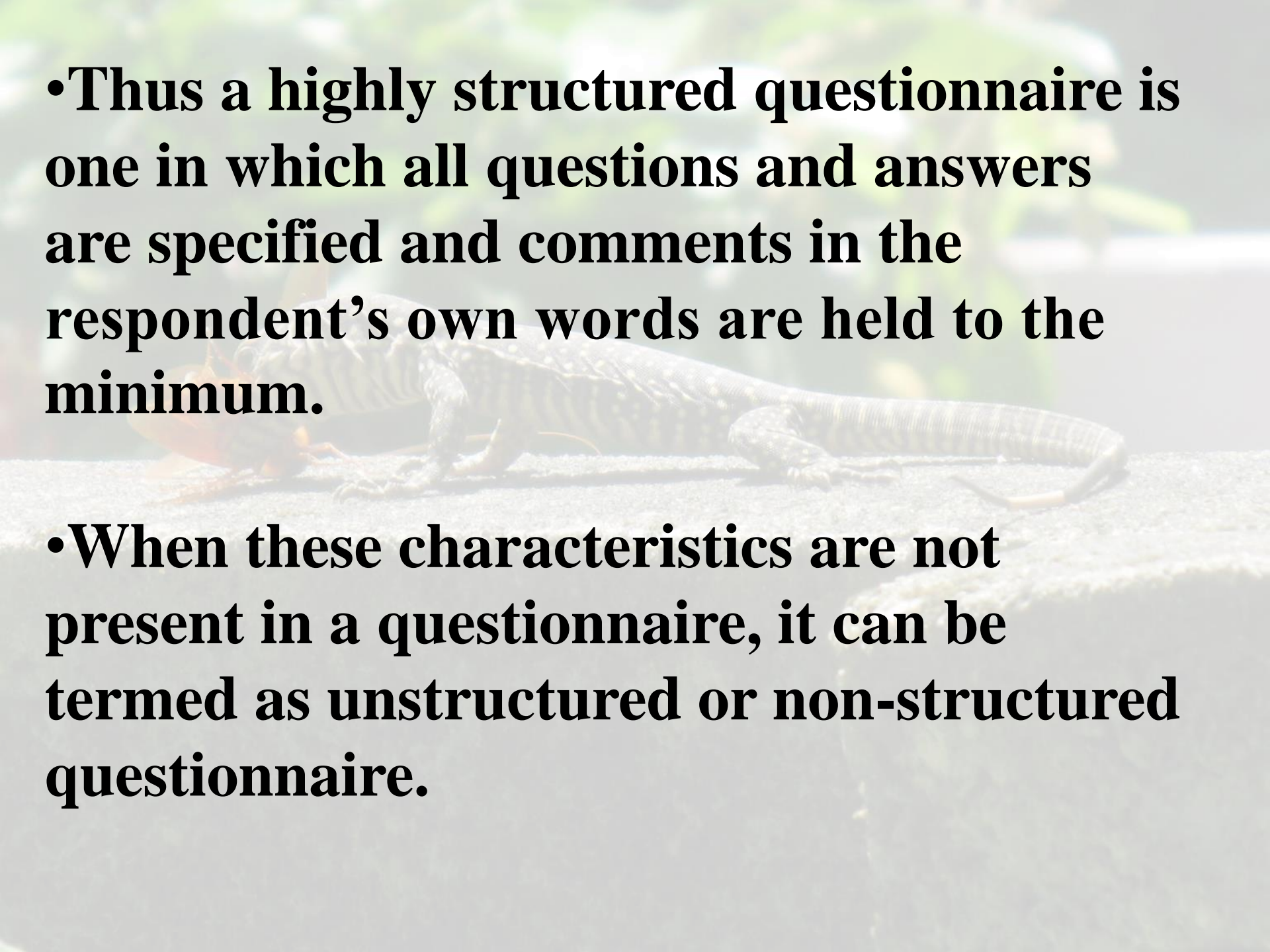
**1. *General form*: it can either be structured or unstructured questionnaire.**

**• Structured questionnaires are those questionnaires in which there are definite, concrete and pre-determined questions.**

A background image showing a lizard and a scorpion on a light-colored, textured surface, possibly a rock or concrete. The lizard is on the left, and the scorpion is on the right. The image is slightly faded and serves as a backdrop for the text.

**• The form of the question may be either closed (i.e., of the type ‘yes’ or ‘no’) or open (i.e., inviting free response) but should be stated in advance and not constructed during questioning.**

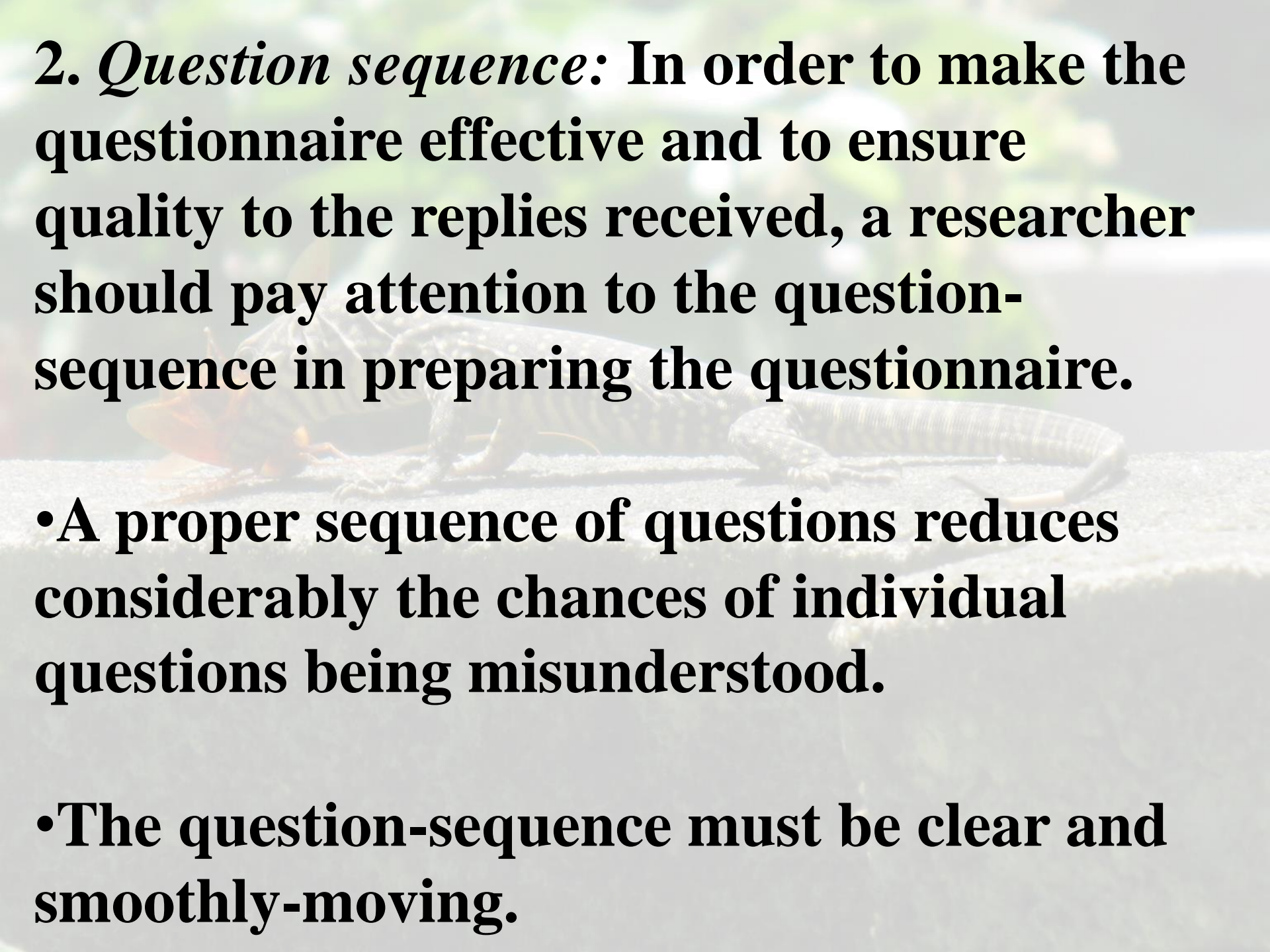
**• Structured questionnaires may also have fixed alternative questions in which responses of the informants are limited to the stated alternatives.**

A lizard is shown in the background, resting on a light-colored rock. The background is a soft, out-of-focus green, suggesting a natural outdoor setting. The text is overlaid on this image in a bold, black, serif font.

**• Thus a highly structured questionnaire is one in which all questions and answers are specified and comments in the respondent's own words are held to the minimum.**

**• When these characteristics are not present in a questionnaire, it can be termed as unstructured or non-structured questionnaire.**

**•More specifically, in an unstructured questionnaire, the interviewer is provided with a general guide on the type of information to be obtained, but the exact question formulation is largely his own responsibility and the replies are to be taken down in the respondent's own words to the extent possible; in some situations tape recorders may be used to achieve this goal.**



**2. *Question sequence*: In order to make the questionnaire effective and to ensure quality to the replies received, a researcher should pay attention to the question-sequence in preparing the questionnaire.**

- A proper sequence of questions reduces considerably the chances of individual questions being misunderstood.**

- The question-sequence must be clear and smoothly-moving.**



**The following type of questions should generally be avoided as opening questions in a questionnaire:**

- 1. questions that put too great a strain on the memory or intellect of the respondent;**
- 2. questions of a personal character;**
- 3. questions related to personal wealth, etc.**

**3. *Question formulation and wording:* With regard to this aspect of questionnaire, the researcher should note that each question must be very clear for any sort of misunderstanding can do irreparable harm to a survey.**

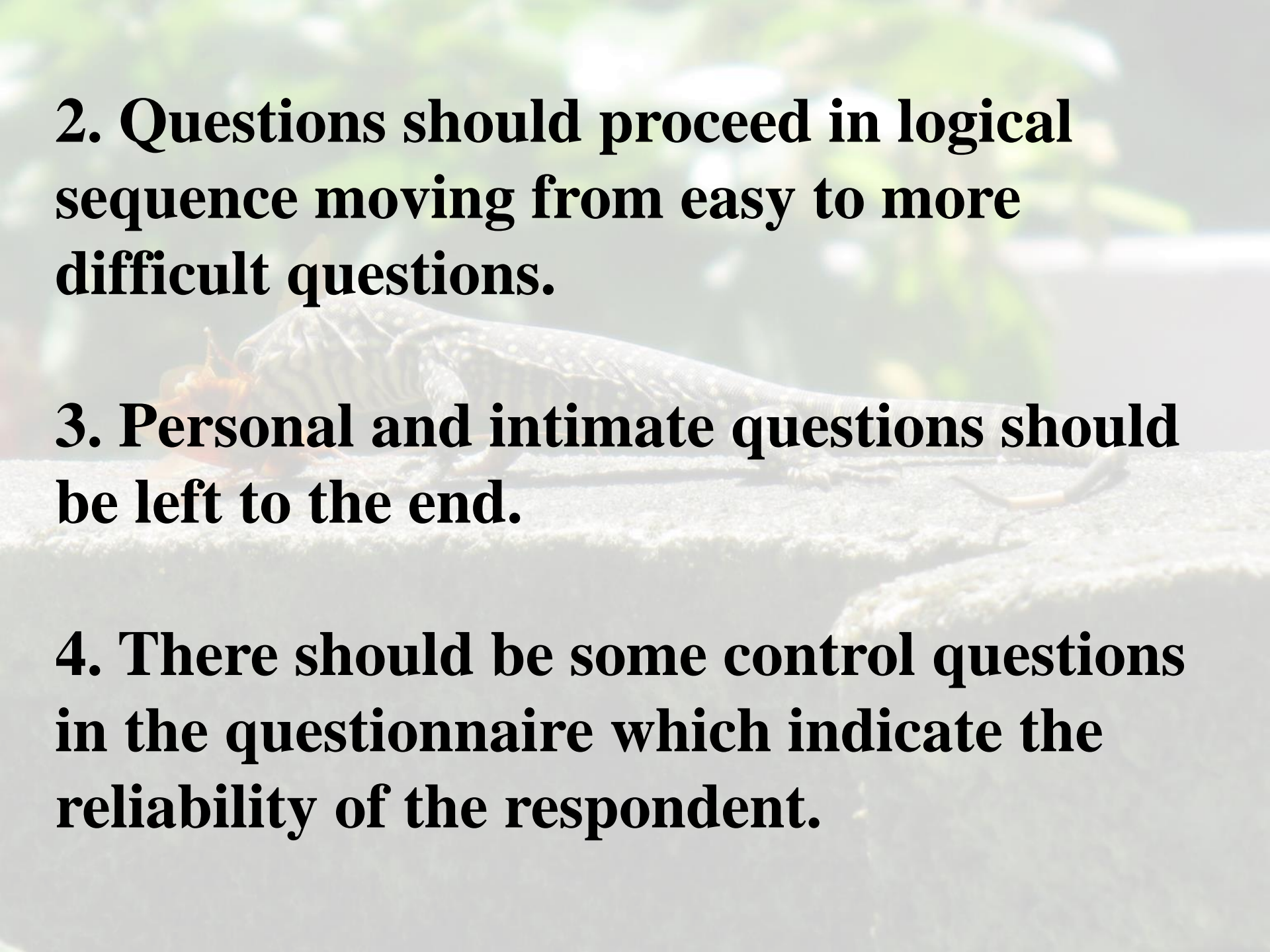
**In general, all questions should meet the following standards—**

- (a) Should be easily understood**
- (b) should be simple**

**(c) Should be concrete and should conform as much as possible to the respondent's way of thinking**

*Essentials of a good questionnaire*

**1. To be successful, questionnaire should be comparatively short and simple i.e., the size of the questionnaire should be kept to the minimum.**

A green iguana is resting on a light-colored, textured rock. A small orange insect is visible near the iguana's head. The background is a blurred green and white, suggesting an outdoor setting with foliage.

**2. Questions should proceed in logical sequence moving from easy to more difficult questions.**

**3. Personal and intimate questions should be left to the end.**

**4. There should be some control questions in the questionnaire which indicate the reliability of the respondent.**

**5. Adequate space for answers should be provided in the questionnaire to help editing and tabulation.**

**6. There should always be provision for indications of uncertainty, e.g., “do not know,” “no preference” and so on.**

**7. Brief directions with regard to filling up the questionnaire should invariably be given in the questionnaire itself.**