

Equipment for standardized photography of live objects, especially fish

Development status

Phase 3

Technology validation and implementing it in real environment. Testing the technology outside of the laboratory and its adjustment to external conditions.

IP protection status

Utility Pattern nr. 32990 Equipment for standardized photography of live objects, especially fish

Partnering strategy

Co-development, investment, licensing

Description of images:
1. device for standardized photography of live objects
2. photo chamber
3. photo chamber
4. light module
5. camera module
6. control unit
7. microcomputer control software
8. calibration pad
9. standard spectrum light source
10. light source of near infrared spectrum
11. light source of visible spectrum
12. standard spectrum camera
13. microcomputer
14. microcomputer internal memory unit
15. microcomputer control software
16. remote control and evaluation unit
17. control and evaluation software of remote control and evaluation unit
18. image
19. light module control
20. photo chamber opening
21. communication interface of the remote control and evaluation unit

Challenge

The color of the body surface of living organisms is a very important telling factor. Not only does it reflect many of the signs that make up the reflection of genetic origin, but in addition to the classical sorting character, the color of the body's surface, and above all its changes, is an important factor in the evaluation and prediction of health. Loss of color saturation, pigmentation, clarity of contours often indicate a deterioration in the health of animals. The state of observation so far has focused mainly on point and contact monitoring of the light spectrum of the fish body surface. However, this brings some negatives. The mechanical application of optical measuring instruments to the surface of the fish body brings with it a violation of the layer of slime, and thanks to this, the fish can subsequently perish. In addition, these devices monitor only very small parts of the skin in one measurement, and every contact with the animal causes stress in it. Therefore, the effort

Description

The equipment for standardized photography of live objects, especially fish, includes a photo chamber of rescheduled or cubic shape, a light module, a camera module and a control unit with control software installed. The photo chamber is completely opaque with the inner surface of black color, where a white calibration pad is placed at the bottom of the photo chamber. The light module is then made up of at least two different switching light sources. The camera module is then made up of at least one wide-spectrum camera. The control unit of the device consists of a microcomputer with an internal memory unit for storing the scanned data. The control unit also includes a communication unit for wireless data transmission to the remote control and evaluation unit. The main advantage of this device for standardized photography of living objects, especially fish is the minimization of human contact, as a photographer, and fish, as an object photo shoot. Thanks to this, the fish is exposed to much less stress, which is less reflected in the surface coloring of the fish. In

Institution

jctt

Jihočeské Univerzitní
a Akademické centrum
transferu technologií

University of South Bohemia in

České Budějovice

addition, minimal human contact with fish reduces the abrasion of the slime coating from the fish body and thus minimizes the risk of infectious disease being recorded on the fish.

Commercial opportunity

The equipment can be used wherever it is necessary to monitor the color manifestations of surfaces of mainly living objects or such phenomena on the surfaces of such objects that are visible or significantly visible in a particular spectrum of light radiation, and where it is necessary to reduce the stressfulness of contact between the object and the human, including physical contact, taking into account the health of these living objects. The control SW can be used separately.