

International Bioblitz Expeditions, a Tool for Biodiversity Conservation

Objectif Sciences International - Biodiversita



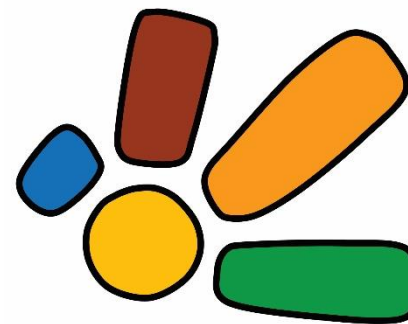
Sylvain Allombert, PhD

Biodiversita Research and Education Program

Objectif Sciences International

Mail : direction@osi-biodiversita.org

Tel. : +33 7 81 46 72 37



**Objectif
Sciences
International**
25 YEARS NGO
ANS 1992
ANOS 2017

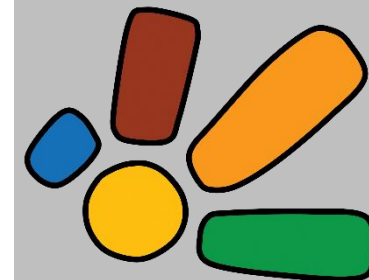
Contents

1. Biodiversita : participatory research for conservation
2. Program outline
3. Some achievements of Biodiversita
4. Introducing International Bioblitz EXpeditions (IBEX)
5. IBEX characteristics and values
6. An international call for proposal



« Each species on our planet plays a role in the healthy functioning of natural ecosystems, on which humans depend »

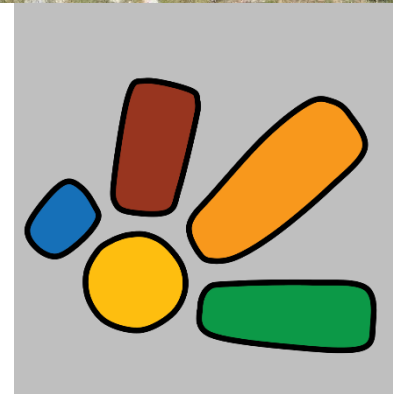
William H. Schlesinger



1. Biodiversita : participatory research for conservation

Biodiversita is an « **Education and Research Program** » within Objectif Sciences International, working in the fields of :

- ✓ Biodiversity inventory
- ✓ Biodiversity monitoring
- ✓ Biodiversity conservation

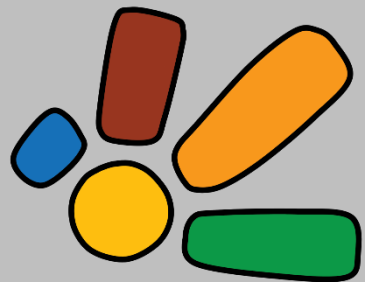




2. Program outline

What is at stake ?

- ✓ We currently live during the 6th mass species extinction
- ✓ Biodiversity is recognized as fundamental to human societies
- ✓ However, our knowledge of biodiversity is still very limited
- ✓ Better mapping of biodiversity is essential to focus conservation efforts for an optimal efficiency



« We don't know for sure how many species there are, where they can be found or how fast they're disappearing. It's like having astronomy without knowing where the stars are. »

Edward O. Wilson

2. Program outline

Vision

Knowledge of biodiversity is necessary for conservation and cannot improve quickly without a strong involvement of citizens.

Mission

Working on a better knowledge of biodiversity by developing methods and tools :

- To allow involvement of youngs and beginners in the study of biodiversity
- To enhance skills and efficiency of trained naturalists
- To raise motivation for and commitment in biodiversity studies of all citizens

« All awareness, conservation and research of nature starts with the question: which species is that? »

Klaas-Douwe B. Dijkstra





3. Some achievements of Biodiversita

Biodiversity monitoring

Participatory research camp for children and teenagers in Switzerland to monitor the evolution of biodiversity over time in a valley of the Alps :

- 735 species inventoried in 4 years
- 4 different taxa monitored over time :
large mammals, nival belt plants,
butterflies, Orthoptera



Objectif Sciences International 2023
Programme de recherche et d'éducation Biodiversita

Comptages de papillons de jour pour le projet de suivi de la Biodiversité du Val d'Anniviers (première expérimentation)

Date : 21/07/15
Localisation : prairies au nord-est du lac, Lieu-dit « L'Armina »
Observateurs : Paul Begon, Milo Sofia & Sylvain Allombert

| | Espèce | Transect 1 | Transect 2 | Total |
|--------|------------------------|------------|------------|------------|
| Dames | Cardide | 4 | | 4 |
| | Satyrin | 13 | 13 | 26 |
| | Nacré des Renouées | 11 | 6 | 17 |
| | Chiffre | 0 | 1 | 1 |
| | Petit Apollon | 2 | 2 | 4 |
| | Damier non déterminé | 6 | 9 | 15 |
| | Damier de la Suisse | 2 | 1 | 3 |
| | Damier des alpages | 0 | 0 | 0 |
| | Mélisse alpine | 3 | | 3 |
| | Auré des Soldanelles | 4 | 8 | 12 |
| Mouris | Mouris non déterminé | 3 | 5 | 8 |
| | Mouris fauve | 0 | 0 | 0 |
| | Mouris de la Canche | 4 | 9 | 13 |
| | Mouris cuivre | 3 | 0 | 3 |
| | Zygène des sommets | 2 | 2 | 4 |
| | Papillon non déterminé | | | |
| | Total | 55 | 54 | 109 |
| Durée | 10'06" | 9'56" | | |

Site des comptages



3. Some achievements of Biodiversita

Biodiversity inventory methodology (1)

Creation of identification tools adapted to the studied area and to the initial level of knowledge of participants



Ornithologie Fiche Europe n°3

Objectif Sciences International 25

Clé d'identification des rapaces en vol

Etape 1 Observez la forme et la taille de la queue

a) Quelle est la forme de la queue vue par dessous ?

En coin (pointue) Fourchue Arrondie (dépliée ou repliée)

b) Comparez ensuite la longueur :

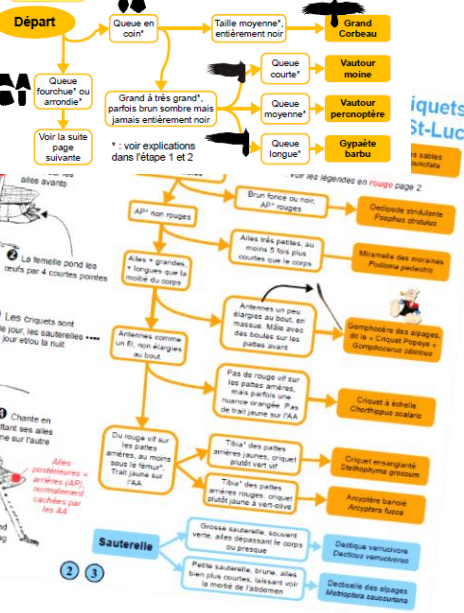
- presque 2 fois + longue : queue **très longue**
- + longue mais - que ci-dessus : queue **longue**
- environ aussi longue : queue **moyenne**
- moins longue : queue **courte**
- 2 fois moins longue : queue **très courte**

Etape 2 Observez la taille de l'oiseau

L'envergure est la distance entre le bout des 2 ailes. On distingue 4 groupes :

- moins d'1m d'envergure (faucons, éperviers...) : taille **petite**
- entre 1m et 1,5m d'envergure (taille d'une buse ou d'un milan) : taille **moyenne**
- entre 1,5m et 2,3m d'envergure (taille d'un aigle) : taille **grande**
- plus de 2,3m d'envergure (taille d'un vautour) : taille **très grande**

Etape 3 Suivez la clé d'identification ci-dessous



Botany

Lenk Identification Key n°1

Trees of the Lenk Valley

Here is a key to find the name of almost all trees of the Valley of Lenk in the Swiss Alps.

Conifer or deciduous ?

- Is there any needles? If yes, it is a Conifer. Go page 2 for these and begin at « Start A ».
- Is there soft leaves? If so, it is a Deciduous tree. Go page 2 but begin at « Start B ».

Be careful about false leaves !

All true leaves have the same features :

- A **leafstalk** which hold the leaf (sometimes very tiny)
- A **bud** at the base of the leafstalk (sometimes the bud has transformed into a secondary stem or a flower)

If the « leaves » have a bud at the base, there are true leaves: we call them **simple leaves**.

If the « leaves » have no bud at the base, there are only **leaflets** and are part of a compound leaf.

Identification key for conifers

Start A

- Needles attached by groups on the twigs. Groups of ... 2 → Black Pine *Pinus nigra*
- Needles attached by groups on the twigs. Groups of ... 5 → Swiss Pine *Pinus cembra*
- Needles attached alone on the twigs. If you tear them out, a little piece of bark is coming → Larch *Larix decidua*
- Needles attached alone on the twigs. If you tear them out, a little piece of bark is coming → Norway spruce *Picea abies*

Identification key for deciduous trees

Start B

- Compound leaves? → Opposite leaves? → 5 (-7) leaflets → Elderberry *Sambucus nigra*
- Compound leaves? → Opposite leaves? → More than 7 leaflets → Ash *Fraxinus excelsior*
- Compound leaves? → Alternate leaves? → Rowan *Sorbus aucuparia*
- Simple leaves? → Opposite leaves? → Small leaves, tips with rounded point → Field Maple *Acer campestre*
- Simple leaves? → Alternate leaves? → Leaf tips like needles → Norway Maple *Acer platanoides*
- No red buttons → Continue page 4 at « Start C »

Entomologie

Clé des sauterelles et criquets des alpages de St-Luc

Fiche Annivers n°5

Sauterelles, Criquets et Grillons constituent l'ordre d'insectes **Orthoptères**. Ils sont caractérisés notamment par des pattes arrières adaptées au saut, et se situent souvent par des ailes avant rigides, protégeant et cachant les ailes.

Etape 1 Est-ce que je peux utiliser cette clé ?

- Si tu es dans les alpages au-dessus de St-Luc, et que tu es bien au-dessus de la limite des arbres, alors OUI de toi, tu peux utiliser cette clé, mais ATTENTION, des espèces non présentées ici existent sûrement dans ton coin!

Etape 2 Sauterelle ou criquet ?

Un bon inspecteur ne croit pas transporter quelle sorte, couleur et taille n'ont aucune importance pour distinguer sauterelles et criquets.

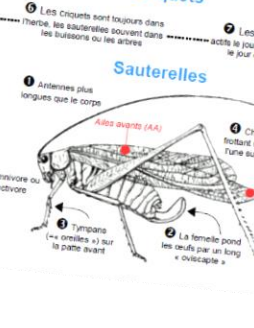
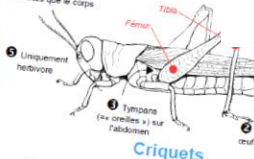
- Antennes très fines, bien plus courtes que le corps → **Criquet**
- Antennes moins fines, bien plus courtes que le corps → **Sauterelle**

Etape 3 Interrogatoire en règle

Pour forcer votre orthoptère à avouer son nom inspectez le plus souvent la clé correspondant à son groupe page 3 (criquet ou sauterelle).

Etape 4 Vérifions !

Vous avez un nom ? Bien ! Mais attention, un bon inspecteur vérifie toujours ses informations. Commencez par les photos au verso de la fiche !



Entomologie

Clé des papillons des alpages

Etape 1 Attention aux rigoles qui se trompent d'heure !

Votre massue est en règle, montrez le papillon de jour ! Rendez-vous à l'étape 2 !

« Via les rigoles ayant oublié de se couvrir au petit matin ! »

Etape 2 Dis-moi ta couleur !

Quelle est la couleur principale du dessus des ailes, sans regarder les lignes et autres marques ?

- Papillons blancs → Clé page 2
- Papillons jaunes clair → Clé page 3
- Papillons oranges → Clé page 3
- Papillons bleus → Clé page 3

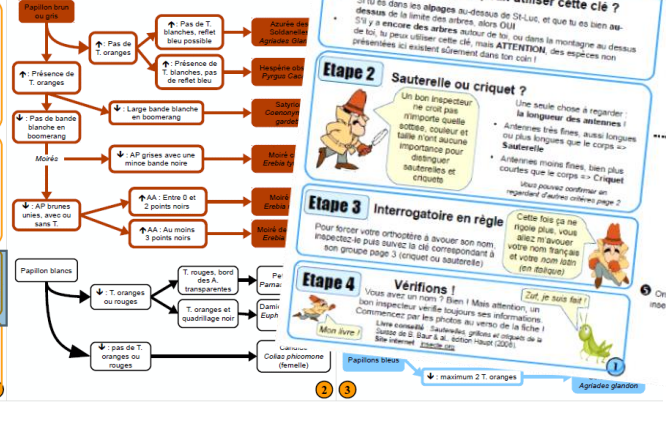
Etape 3 Interrogatoire en règle

Cette fois ça rigole plus, vous allez me dire votre nom français et votre nom latin (en italique) !

Pour forcer votre papillon à avouer son nom, inspectez-le puis suivez la clé correspondant à la couleur principale du papillon.

Etape 4 Vérifions !

Vous avez un nom ? Bien ! Mais attention, un bon inspecteur vérifie toujours ses informations. Commencez par les photos au verso de la fiche !





3. Some achievements of Biodiversita

Biodiversity inventory methodology (2)

| | | |
|--|---|--|
| Observation N° : | Photo prise : <input checked="" type="checkbox"/> <input type="checkbox"/> | Photographe : |
| A 1 ^{ère} vue, ressemble à : | Chant enregistré : <input checked="" type="checkbox"/> <input type="checkbox"/> | Code de l'enregistrement : |
| | Enregistré sur ObsMapp : <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| Noms des observateurs : | | |
| | | |
| • Particularités : • Collier : <input checked="" type="checkbox"/> <input type="checkbox"/> • Barre ailaire : <input checked="" type="checkbox"/> <input type="checkbox"/> • Autres : • • | | |
| Blanc : blc Gris : G Noir : N Bleu : B Rouge : Rg Vert : Ve Jaune : J Orange : O Rose : Rs Crème : C Beige : Bg Marron : M Violet : Vi | | |
| Longueur du bec : B < T B = T B > T B > 2T | | Longueur de la queue : Q = 0 Q = % C Q = % C Q = C |
| Largeur du bec : Fin Moyen Large | | Forme de la queue : |
| Identification après observation : Id 1 (id certaine entre 0% et 50%) : <input type="checkbox"/> Id 3 (id certaine à 95%) : <input type="checkbox"/> Id 2 (id certaine entre 60% et 90%) : <input type="checkbox"/> Id 4 (id certaine à 100%) : <input type="checkbox"/> | | |

Field data sheet to record identification criteria

Nouvelle observati... 52.942271, 6.346125 (±14m)

Moineau domestique

Nombre: 2

Sexe: Mâle

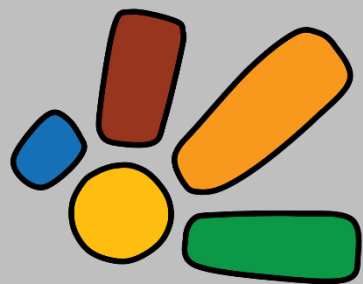
Comportement: Cherchant de la nourriture

Stade: Adulte

Méthode de comptage

Enregistrer

Digital notebook to record observation data





3. Some achievements of Biodiversita

Innovative pedagogy



Participative training in
ornithology, botany,
entomology...

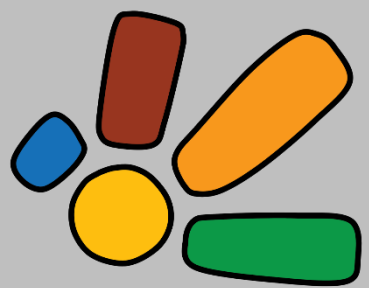
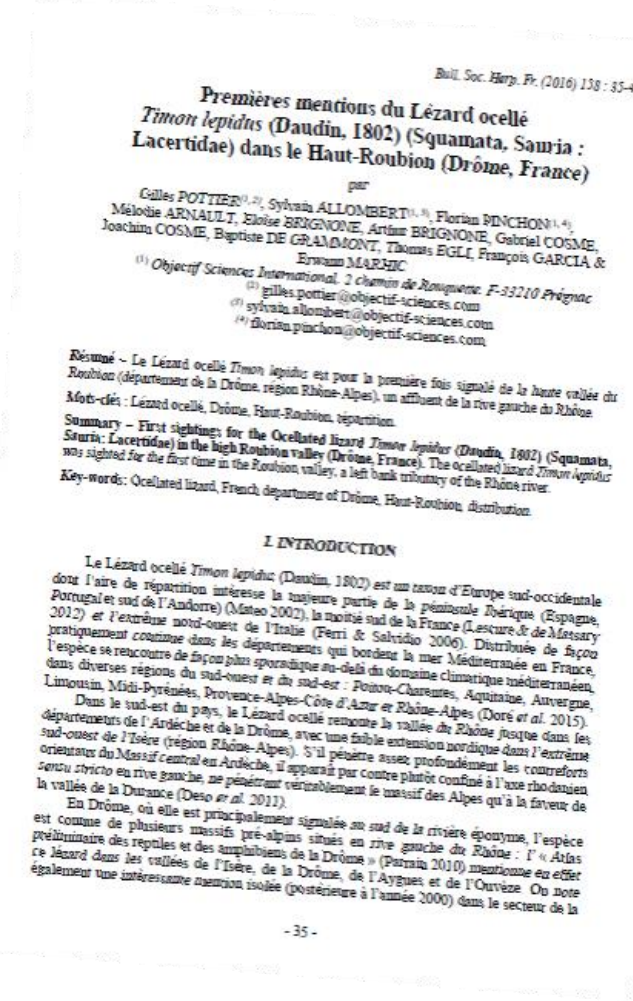
Empowering youth in
biodiversity field
research by project-
based learning





3. Some achievements of Biodiversita

Scientific publications



Discovery of an isolated population of an endangered lizard (Ocellated lizard *Timon lepidus*) during a bioblitz operation

4. Introducing International Bioblitz EXpeditions (IBEX)

BioBlitz : a definition

A **BioBlitz** is an intense period of biological surveying in an attempt to record all the living species within a designated area (Wikipedia).

Features

Bioblitz :

- Bring together specialists and volunteers to census biodiversity
- Enable the collection of large amount of data thanks to the general public participation
- Allow for better awareness on local biodiversity

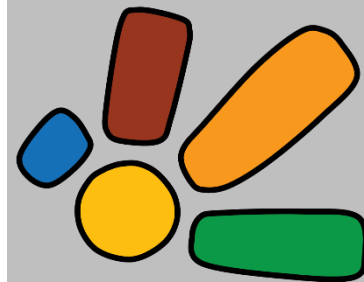
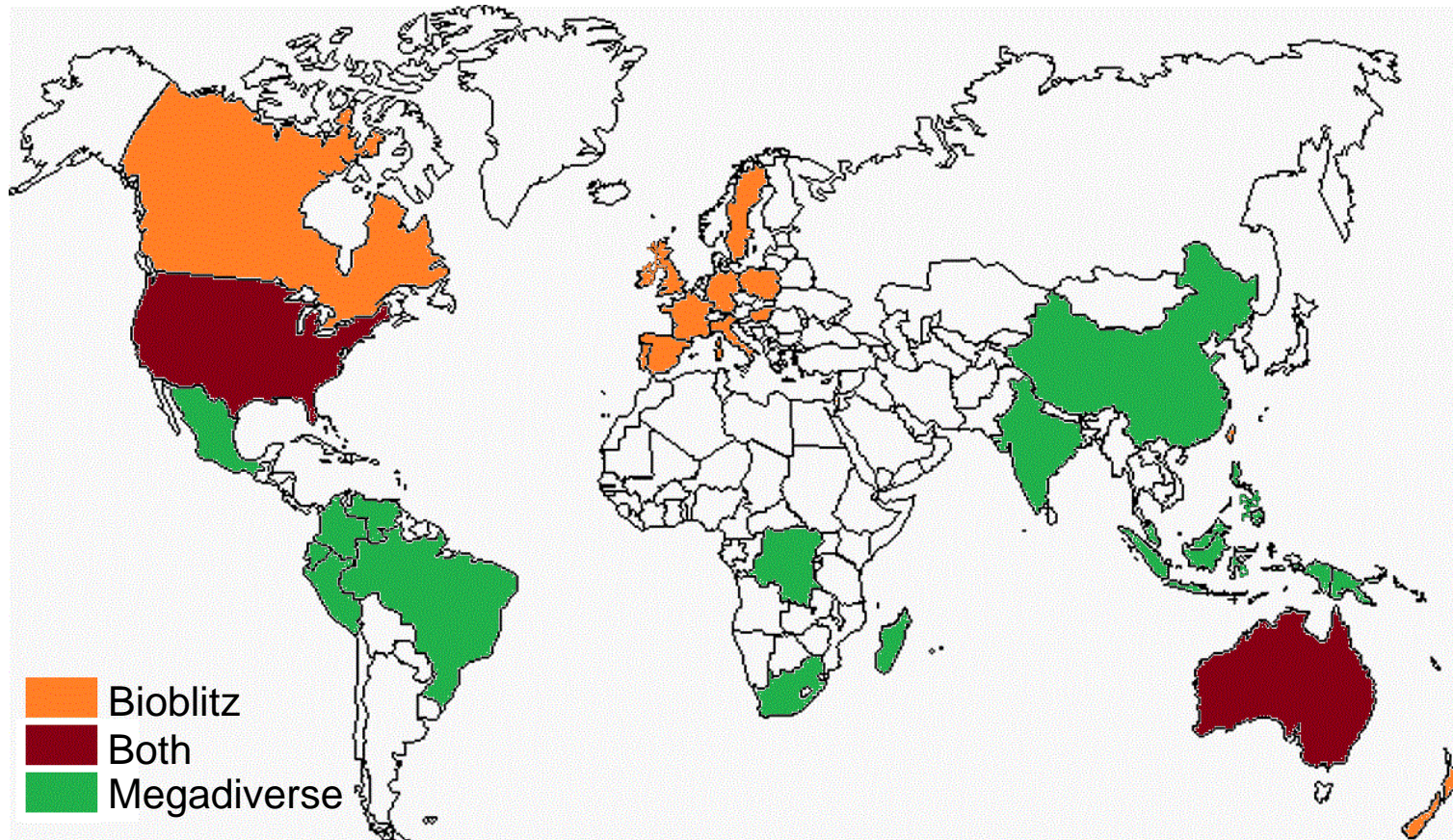


4. Introducing International Bioblitz EXpeditions (IBEX)

Bioblitz limitations

Bioblitz are ...

- ... on a very short timeframe (1-2 days)
- ... mostly conducted in developed countries





4. Introducing International Bioblitz EXpeditions (IBEX)

A new step for bioblitz

IBEX objective is to scale up bioblitz by conducting them in the most biologically rich and endangered areas, on longer timeframes (1-3 weeks)

Project outline

IBEX (International Bioblitz Expedition) will be citizen science projects aiming at conducting fast biodiversity studies in biodiverse areas to collect data enabling a better conservation of biodiversity onsite.



5. IBEX characteristics and values (1)

IBEX are ...

✓ **Participatory**

IBEX will be conducted by the volunteers participating in the expeditions

✓ **Scientific**

We will ensure that all data collected will meet the highest scientific standard





5. IBEX characteristics and values (2)

IBEX are ...

✓ **Solidary**

- IBEX will be conducted in countries that lack sufficient fundings or scientific expertise to carry necessary biodiversity studies.
- IBEX will try to involve as much as possible local participants.

✓ **Bottom-up projects**

Initiative for IBEX projects will have to come from local stakeholders.



5. IBEX characteristics and values (3)

IBEX are ...

✓ **Educational**

IBEX will also aim at :

- improving naturalist and scientific skills of local and foreign participants,
- rising awareness about biodiversity richness among local populations.

✓ **Conservation oriented**

Data collected will have to be useful for insuring a better conservation or a better management of biodiversity in the studied areas.



6. An international call for proposal

For who ?

- Conservation NGO
- Protected area agencies
- Governemental organization
- Local institutions
- Group of concerned citizens
- ...

For what ?

Proposing a project defined by ...

- The area(s) to be studied
- The taxonomic group(s) to be studied
- The conservation issues related to these areas & taxonomic groups
- The objectives of the project
- The local partners involved

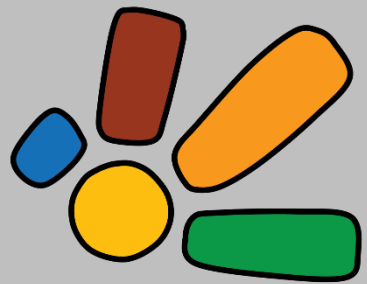




6. An international call for proposal

Project selection criteria

- ✓ How important are conservation issues raised by the proposal ?
- ✓ Is an IBEX a suitable project for addressing these issues ?
- ✓ Is the project viable in scientific, economic and logistic terms ?
- ✓ Would the project be well integrated with local institutions and populations ?



Interested by our call for proposal ?

Sylvain Allombert

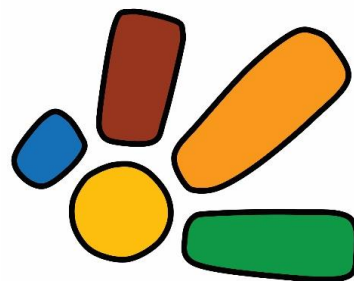
direction@osi-biodiversita.org



Thank you for your attention

Thank you for all past and future participants to our projects

Thank you to all partners and Biodiversita team members



**Objectif
Sciences
International**

25 YEARS NGO
ANS 1992
AÑOS 2017

