AVE
～ *User manual* ～

Ave has two main windows: the app [Initial Window](#), and the [Species Window](#) with its menu. The Initial Window is used to search for species in the databases, while the Species Window displays the individual species data when a specific species is selected in the Initial Window.

TIP: Use the Volume keys on the Initial Window to change font sizes to your liking.

◊ At the top-left corner initials indicate the current species list in use. Click on this field to open a grid with all species lists in databases; select one of them to change the list. Long clicking this field pops-up the List descriptions, if available: the current list is highlighted, and you can also click on a row to switch to the corresponding list.

◊ *About the Search Pattern:* A space indicates 'any character sequence', while a dot means 'any character'. There is no need to use accents, apostrophes or cedillas. Therefore, searching for 'saira' will return all saíras in current species list, while 'saira cores' will only return the 'saíra-sete-cores' (if present in current list). You can search for Taxon, English or Common names.

Usability TIP: By long-pressing the Search button ⚲, Ave looks for the Search Pattern in all lists, not just in the current one.

◊ The Families button shows all families in current list; select one of them to get the corresponding family members in the current list. Press again the Families button to search by species.

◊ The History button shows the species selected so far, in reversed chronological order. To erase the history, either long-press History, or select Tools > Delete History.

◊ The small button at the left of Families is used to switch the output between Taxon, English and Common names.

Usability TIP: By long-pressing this button the output of the previous search is sorted alphabetically.

◊◊ When GPS is enabled in the device before Ave is launched, the GPS button   at the top indicates that Ave is ready to begin tracking and saving your position through GPS. This button toggles GPS tracking when long-clicked. After enabling tracking, a green button ⊙ indicates that the track is being recorded; if the button turns red ⊙ it means that there is some problem writing the track file, or that GPS was disabled in the device. A yellow button ⊙ indicates that the device GPS is looking for a fix.

◊◊ Tracks are saved in a track file in the *MYTracks* folder inside the Main Folder in CSV format, with names of the form:

ave_YYMMDD_HHMMSS.csv.

You can see your tracks and records (even multiple ones) in a satellite map using the corresponding Tool options (Internet connection or previous cache required).
In addition, in the shortcut/widget section of the device it is installed a stand alone

activity called **Ave Map** that provides the same track saving and viewing features as Ave, but without the need to run the whole application, being then much faster to load and a bit less resource intensive.
Moreover, you can also view tracks and records with a web browser loading them in this link:

https://luis.impa.br/ave/map

TIP: As long as Ave keeps running, the tracks are all saved and appended to the same file, even after stopping the device GPS or pressing Ave's GPS button. To save a track to a fresh new file, just close Ave, open it again, and activate the GPS feature as explained above. If you want to save all tracks (and records) to a single file for each day of use, activate Tools the option *One TRACK & REC per day*.

TIP: If you observe blank squares in the map with the inscription *"Sorry, we have no imagery here"* while using a working internet connection, try clicking in "Delete map cache" in Tools 🔧. Notice that this tool is enabled only when an internet connection is active.

TIP: Use Tools > View track/Share to view old tracks, or to share files by long pressing the name.

 ◊◊ **Ave map** can also open and save files containing landmarks that are shown as yellow stars ⭐ . Landmark files are CSV files with the format

place,latitude,longitude,altitude,remarks

(this has to be the first line of the file). To add a landmark, just double click on the map and set its title as *place/remarks* (the altitude or elevation will be shown if the device has an active internet connection), while a double click on a landmark removes it. New landmarks are automatically saved in files named marks_YYMMDD_HHMMSS.csv when the map is closed. New landmarks can also be added to old landmarks files, and old landmarks can be moved in the map, but only if a double click has been performed over the map. In this case, a confirmation dialog to rewrite the landmarks file will be shown at exit time. Long click ❌ to clean all landmarks from the map, short click it to save landmarks to a file.

 ◊◊ The MIC button 🎤 opens a dialog to save audio in the *MySongs* folder, either as *m4a AAC 8 bit* or as *WAVE 16 bit with gain*, the last one proper for edition (beware of filling the disk!). In the second case, at the right there is a slider to control the recording volume gain in DB, being 0 the device default, and 10 the max (beware of distortions!). When the *Auto* option is activated the volume is automatically set as high as possible without clipping. The audio files created have the DB gain and GPS possition (when available) tagged in the file Metadata, which can be viewed by Audacity, Exiftool, ffprobe, and other software. This dialog is also accessible from the REC button in the Species Window.

◊◊ Some tools and configuration options are available under the Tools button ✐. In particular, the location of the Main Folder (this allows to have different guides for, say, different classes of animals); your Photo Folder (to integrate Ave with your own pictures, see below); Special lists (separated by commas: to show the species in those lists with a different color); two buttons to update independently Ave and its main database (for convenience, these update buttons become enabled only when an Internet connection is active and new updates are available). The track viewer is also under tools; see below.

◊◊ Android 11 brings additional restrictions for apps to read and write storage. On the other hand, for Android 11+, in Tools there is an option to *Access to all files*. By enabling this Ave will be able modify files in storage as it were a file manager. This is necessary to integrate Ave with user's photos, unless the photos are included in Ave's own folder. In addition, it allows to set the Main Folder outside Ave's app folder preventing media loss if Ave is uninstalled. It is recommended to enable this for Android 11+.

◊ There is an option to change the default main database web address folder, if you want to use an alternative custom main database, or if there is no desire to update it. To use an alternative custom main database, write the web address of the folder where the alternative files *aves_database*, *family-descriptions.txt*, *list-descriptions.txt* and *status-descriptions.txt* reside. To disable main database updates enter "**none**" or "**-**".

◊◊◊ IMPORTANT: You may experience problems updating or even running Ave at certain point, due to some Android incompatibility between versions. In this case, download Ave installation file ave.apk from the Ave official Home Page, and install it manually (you can do this using Ave itself through Tools > Downloads folder, or with a file manager like *My Files*). DO NOT UNINSTALL Ave, or you will loose all your media files! As always, remember to backup your media files in your computer.

The Species Window [TOP]

This window opens when a species is selected in the Initial Window, or when the search returns only one species.

◊ The Song Controls are located at the top, together with length indication, song number, and total number of songs.

Usability TIP: Turning off/on the screen while a song is playing pauses/stats it, unless the Species Window is not being shown.

◊ The Distribution Map is located at the bottom, together with a button to open species images and/or thumbnails. Click on the map to switch to additional user added maps.

◊ The information displayed for a species includes an optional Obs field. This field appears when the *Information* folder contains a non-empty text file *obs.txt*, and in that case it displays its content. You can create or modify this file as you please to show additional informations.

◊ The REC button pops up a dialog to add a record of the species: several data is stored in CSV format alongside the track file, in the *MyTracks* folder, and with names matching ave_YYMMDD_HHMMSS_REC.csv. If GPS is enabled and tracking the GPS data is also stored, but GPS is not required to use the record feature. Below the dialog the MIC 🎤 function to save audio is also accessible.

◊ Inside the Species Window's menu ⋮ there is a menu item to list all the Family members of the species in the Initial Window, as well as a pop-up with More info, that displays the content of a text file *info.txt* contained in the *Information* directory. This menu can also be activated with a longclick anywhere in the text.

◊ While a song is being played, three more menu items will appear: one to delete the song, a second one to display its ID3 tag, and a third to make it first to play. In order for the latter to work properly, it is *strongly recommended* that the songs are named with a leading two digit number.

Usability TIP: Long-pressing the *Play* button also shows the ID3 tags of the current song.

◊ If the species is not a member of the current list, an additional menu item appears to add it to the current list by adding the SPECIES;LIST combination to the *mylists.txt* file (see below).

◊◊ When Internet connection is available, one more menu item will appear, for internet related stuff, in particular, to download additional songs and record maps (for birds guide only). Please, do *not* use Ave to "download everything", because that overloads servers. Ave only downloads up to 8 files for each species (ask me for a hack if you *really* need more than this).

The Databases [TOP]

They are located in the root of the main directory, together with *Songs*, *Maps*, *Thumbs* and *Information* directories:

~ *aves_database*: This is the main database file. You can modify it as you please, but take into account that it is overwritten if you update databases from the Initial Window's Tools. To store your own data, better use the *mylists.txt* file as follows.

~ *mylists.txt:* This text file is created and modified exclusively by you, and contains one species per line with the additional lists it belongs to. That is, each line has the

form

SPECIES;LIST1,LIST2,...

where SPECIES is either the first Common name, or the Taxon name, or English name, exactly as they appear in the database files. If this name is not found in any database file, Ave will complain while loading, showing a list of the wrong names for you to fix, and that species will be ignored.

 ~ *mylists-descriptions.txt:* This text file contains the descriptions of your lists defined in the *mylists.txt* file. Its format is the same as the provided *lists-descriptions.txt* file, i.e., one description per line of the form

LIST;description

 ~ The process of importing and updating your own lists is done through the corresponding Tools > Import or update list option. You will be prompted for the list name, its description, and the list file. Your *mylists.txt* file will be updated, and the old one will be moved to the *ImportedLists* folder, together with the list file. The file *mylists-descriptions.txt* will also be updated automatically. The list file, which has to be contained in the Main Folder, must have the simple format of one species per line, with the same rules as the ones for the *mylists.txt* file for the species names. If a species in the list file or in the *mylists.txt* file is not found in the databases, the process will be interrupted and you must fix the wrong names in the files to try again.

 ~ Additional Database files can be added, for species not present in the *aves_database* file. They have to be named *aves_database_1*, *aves_database_2*, etc. Each line should refer to one species, and has to have the form

Family;Taxon Name;English Name;Common Name1,Common Name2, ...;Status;LIST1,LIST2,...;SSP1,SSP2,...

(one line per species, no spaces except inside species names).

Remarks: 1. Observe how commas and semicolons are used: semicolons separate fields, while commas set multiple Common names and lists. Take a look at the main *aves_database* file for reference.
2. Beware of duplicate species when creating additional *aves_database_...* files, as they will appear twice when searching and may contain different and/or duplicate information. Use the *mylists.txt* file as described above for species already in databases.
3. If accented characters are needed in the common names, use UTF-8 encoding ONLY.

Integrating user's photos [TOP]

For Android 11+, please read about this option first.

To integrate Ave with your photos in order for them to appear together with the thumbnails in the Species Window, each one has to be named *cleanname_....jpg*, or it has to be located in a directory named *cleanname* inside the Photo Folder (path configurable through Tools > Photo Folder...). Here, *cleanname* stands for any of the species names as they appear in the databases, but without any accents, apostrophes or cedillas. In addition, you need to build an index of your photos using Tools > Rebuild photo index.

Remember: Rebuild the photo index each time you add new pictures, or if you modify the name of any of the old ones, as the search and index are filename based.

◊ When the Photo Folder is properly set, a new Info button ⓘ will appear at the top of the Initial Window. Clicking this button will then list all the places of the file names that match the Search Pattern, together with the dates YYMMDD. This assumes you named your pictures as

...somefolder/cleanname_..._place-YYMMDD-...

If you don't follow this file naming convention the Info button will not return anything meaningful.

DISCLAIMER [TOP]

You can add *Songs*, *Maps*, *Thumbs* and *Information* at will, just by adding them to the corresponding subdirectory named *cleanname* (see above). Ave is provided without any of these files, and the author does not assume any responsibility on how or where the user obtains or uses them.