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Taxon-based Entomology Database KONCHU on INTERNET and its Usage [1), 2)]

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Abstract. A taxon-based entomology database KONCHU is open to the public on INTERNET as well as in the Computer Center of Kyushu University. It is based on main Japanese entomological journals and treats a taxon, *e.g.* species, genus, family, as one record. Each record is composed of 13 items, such as bibliographical, taxonomical, distributional data and key words. Examples of the use of the KONCHU using the database management system SIGMA are presented. A user can access to the file by retrieving the following URL: http://konchudb.agr.agr.kyushu-u.ac.jp/.

Key words: entomology database, network, public use, KONCHU, INTERNET, SIGMA.

A publically available entomology database KONCHU is a general database name which includes various files of bibliographical databases. It is a taxon-based entomology database based on the main Japanese entomological journals and treats a taxon as one record, *i. e.*, species, genus, family, etc. Each record is composed of 13 items, such as bibliographical, taxonomical, distributional data and key words. It has been open to the public at Computer Center of Kyushu University since 1987. The files of database KON-

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CHU are managed by a text database management system SIGMA (Arikawa *et al.*, 1987, 1988) working at the Computer Center of Kyushu University. The system SIGMA has recently modified for use on a work station. Therefore the KONCHU is repro-duced on a work station in the Entomological Laboratory, Kyushu University and is open to the public on INTERNET as well as from the Computer Center of Kyushu Uni-versity.

A user can access to the KONCHU by retrieving the following URL: http://konchudb. agr.agr.kyushu-u.ac.jp/. Outline and usage of the KONCHU are shown in Tadauchi (1987, 1994, 1996), some files in the KONCHU are summarized in Tadauchi (1985: MUSHI file), Tadauchi (1994, ESAKIA file), Tadauchi & Takematsu (1995: AKITU & TMU files), Tadauchi *et al.* (1997: INMS file), and Takematsu *et al.* (1996: SHIKOKU file) and usage of the SIGMA system is explained in Arikawa *et al.* (1987, 1988).

The home page and examples of the use of the KONCHU using the SIGMA are presented in Figs. 1-8.

Acknowledgments

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Tadauchi, O., Y. Takematsu & H. Inoue, 1997, INMS file, in a taxon-based entomology database KONCHU produced at Computer Center of Kyushu University for public use on an on-line network. *Jpn. J. Ent.*, **65**: 847-849.

Takematsu, Y., O. Tadauchi, Y. Higashiura, T. Omori & H. Inoue, 1996, SHIKOKU file, in a taxon-based entomology database KONCHU produced at Computer Center of Kyushu University for public use on an on-line network. *Jpn. J. Ent.*, **64:** 615-616.

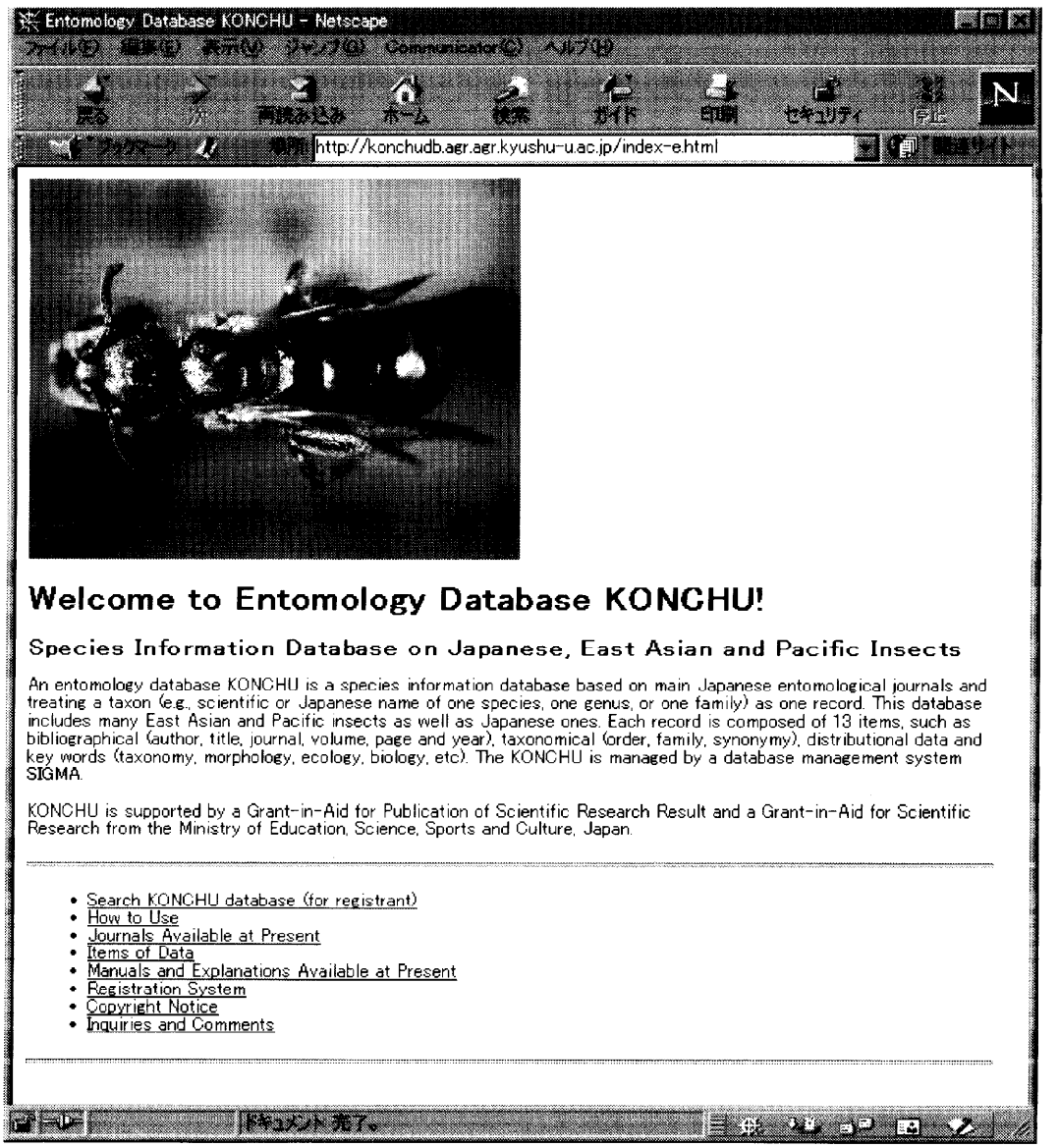


Fig. 1. A home page of a taxon based entomology database KONCHU in English version. A Japanese version is also available. URL: http://konchudb. agr.agr. kyushu-u.ac.jp/.

Journals Available at Present

1. ESAKIA (Esakia, Kyushu University Publications in Entomology)
2. ODOKONA (Applied Entomology and Zoology)
3. ODOKONB (Japanese Journal of Applied Entomology and Zoology)
4. SHIKOKU (Transactions of the Shikoku Entomological Society)
5. INMS (Insecta Matsumurana, N.S., Hokkaido University Publications in Entomology)
6. AKITU (Akitu, N.S., Kyoto Entomological Society)
7. TMU (Bulletin of Natural History, Tokyo Matropolitan University)
8. ZOOSCI (Zoological Science: Zoological Society of Japan)
9. AZJ (Annotations Zoologicae Japonensis)
10. BGSJ (Bulletin of the Biogeographical Society of Japan)
11. KONTYU (Kontyu: Entomological Society of Japan)
12. MUSHI (Fukuoka Entomological Society)

Items of Data

Items of Data and Tugs are the Following 13 items.

1. (TAX) taxon name (scientific name)
2. (JTAX) taxon name (Japanese name)
3. (AU) author
4. (T) title of the paper
5. (J) journal
6. (VNP) volume, number, page
7. (Y) year
8. (OR) order
9. (FAM) family
10. (SYN) synonymy
11. (DST) distribution
12. (KEY) key words
13. (NOTE) note

Manuals and Explanations Available at Present

- Tadauchi, O., 1985, A list from a database DMUSHI produced in the Computer Center of Kyushu University. Mushi, 50: 47-175.
- Tadauchi, O., 1987, A public database of entomology KONCHU and its usage. Koho, Computer Center Kyushu Univ., 20: 597-614. (In Japanese)
- Tadauchi, O., 1994, ESAKIA file, one of the public taxon-based entomology database KONCHU produced at the Computer Center of Kyushu University. Esakia, (34): 227-237.
- Tadauchi, O., 1996, Database production of species information in insects. In Computer Center of Kyushu University (ed.), Essays Contributed in Celebration of the 25th Anniversary of Computer Center of Kyushu University, pp. 156-166, Fukuoka. (In Japanese)
- Tadauchi, O. & Y. Takematsu, 1995, Two files, AKITU and TMU, in a taxon-based entomology database KONCHU produced at Computer Center of Kyushu University for public use on an on-line network. Jpn. J. Ent., 63: 539-540.
- Tadauchi, O. , Y. Takematsu & H. Inoue, 1997, INMS file, in a taxon-based entomology database KONCHU produced at Computer Center of Kyushu University for public use on an on-line network. Jpn. J. Ent., 65: 847-849.
- Takematsu, Y., O. Tadauchi, Y. Higashiura, T. Omori & H. Inoue, 1996, SHIKOKU file, in a taxon-based entomology database KONCHU produced at Computer Center of Kyushu University for public use on an on-line network. Jpn. J. Ent., 64: 615-616.

Fig. 2. A home page of a taxon based entomology database KONCHU in English version. It shows lists of (1) journals available at present, (2) items of data and (3) manuals and explanations available at present. Each taxon (*e.g.* species, genus, family) is extracted from main Japanese entomological journals as one record and composed of 13 items, such as bibliographical, taxonomical, distributional data and key words.

How to Use Entomology Database KONCHU

Simple Search

Advanced Search

To go back to the previous page, please click the **back** button on your browser.

Simple Search

In the simple search mode, you can search the database by defining a simple logical formula composed of keywords (and their items by request) and AND/OR/BUT NOT operators.

Figure 1 shows an initial screen of the simple search.

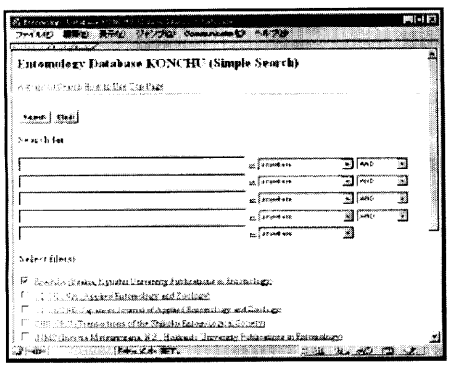
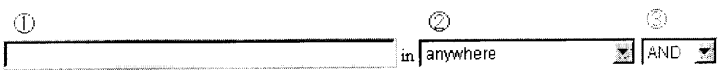


Fig. 1. An initial screen of the simple search.

How to search

1. Keyword
   Type a keyword in the input box.
2. Item
   Select an item of the keyword from a pull down menu. To search the keyword from all items, select anywhere (default).
3. Logical operator
   Select a logical operator (AND or OR or BUT NOT) from the pull down menu if you enter more than one keyword.



4. File
   Select files for search by clicking check boxes of file names. If you click the check box again, it changes unselected.

④

☑ ESAKIA (Esakia, Kyushu University Publications in Entomology)
☐ ODOKONA (Applied Entomology and Zoology)
☐ ODOKONB (Japanese Journal of Applied Entomology and Zoology)

5. Start to search
   Click the **Search** button to start the search.
6. Reset your inputs
   Click the **Clear** button to reset all your inputs.

Fig. 3. Explanation of usage of the entomology database KONCHU in the home page, "How to use entomology database KONCHU". Simple search.

Advanced Search

In the advanced search mode, you can search the database by specifying more complicated logical formulas composed of keywords (their items for request), logical operators, comparison operators and arithmetic operators. The search is performed **simultaneously**.

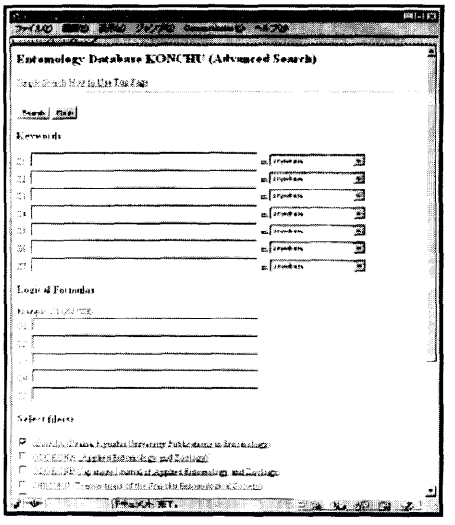
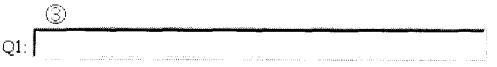


Fig. 5. An initial screen of the advanced search.

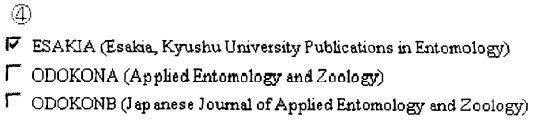
How to search

1. Keyword
   Type a keyword in the input box.
2. Item
   Select an item of the keyword from a pull down menu. To search the keyword from all items, select anywhere (default).

3. Logical formula
   Make logical formula out of keywords and their items which are defined at the stage 1 and 2 (detail is here).



4. File
   Select files for search by clicking check boxes of file names. If you click the check box again, it changes unselected.



5. Start to search
   Click the **Search** button to start the search.
6. Reset your inputs
   Click the **Clear** button to reset all your inputs.

Fig. 4. Explanation of usage of the entomology database KONCHU in the home page, "How to use entomology database KONCHU". Advanced search.

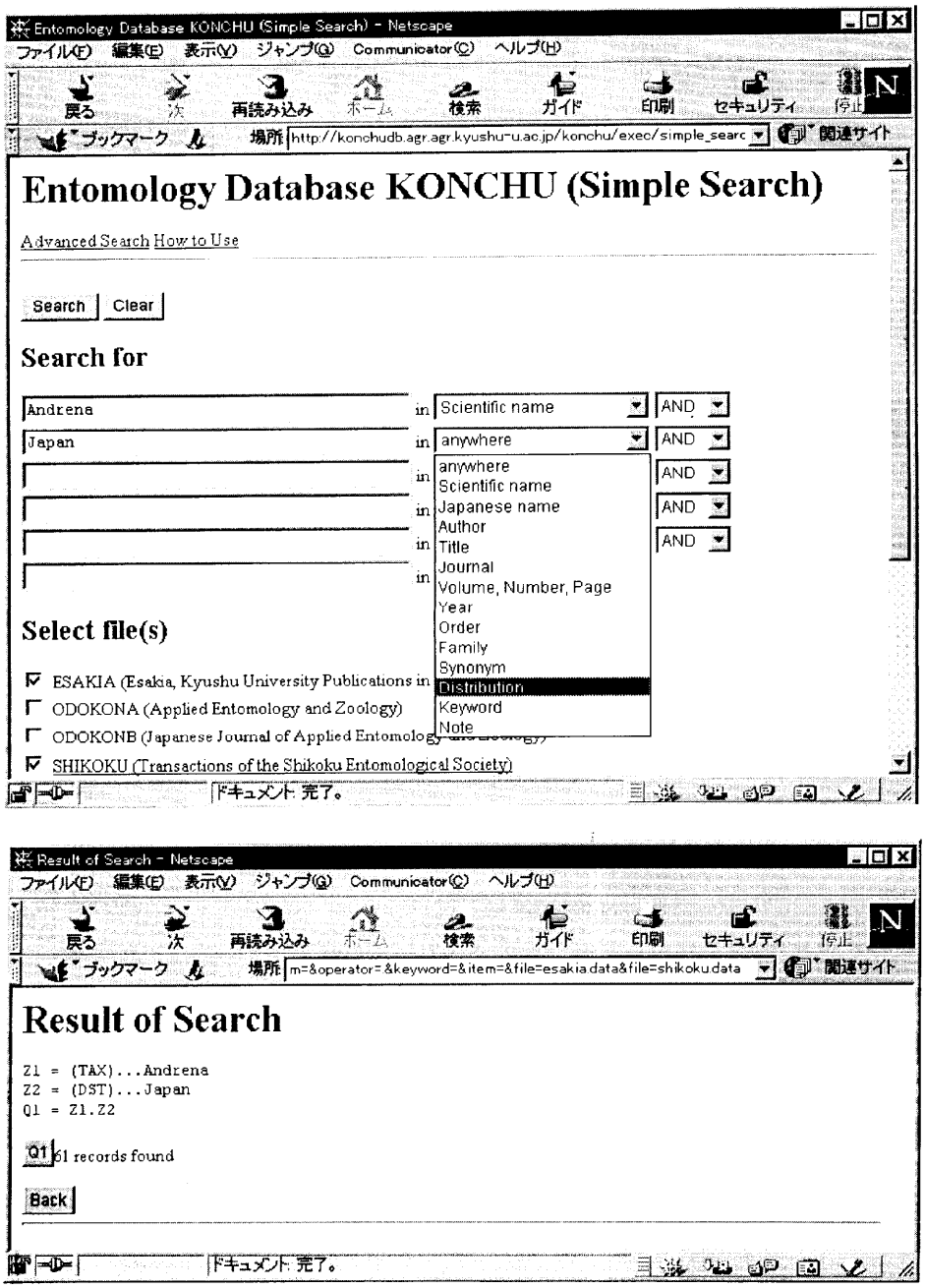


Fig. 5. Explanation of usage of the entomology database KONCHU in the home page "Example of simple search". The upper screen shows that 2 keywords, ***Andrena*** in the item "scientific name" and **Japan** in the item "distribution" are defined and 2 files, **ESAKIA** and **SHIKOKU** are selected. In the screen, the item for the 2nd keyword is just selecting from the pull down menu. The lower screen shows the result of search, 61 records are found.

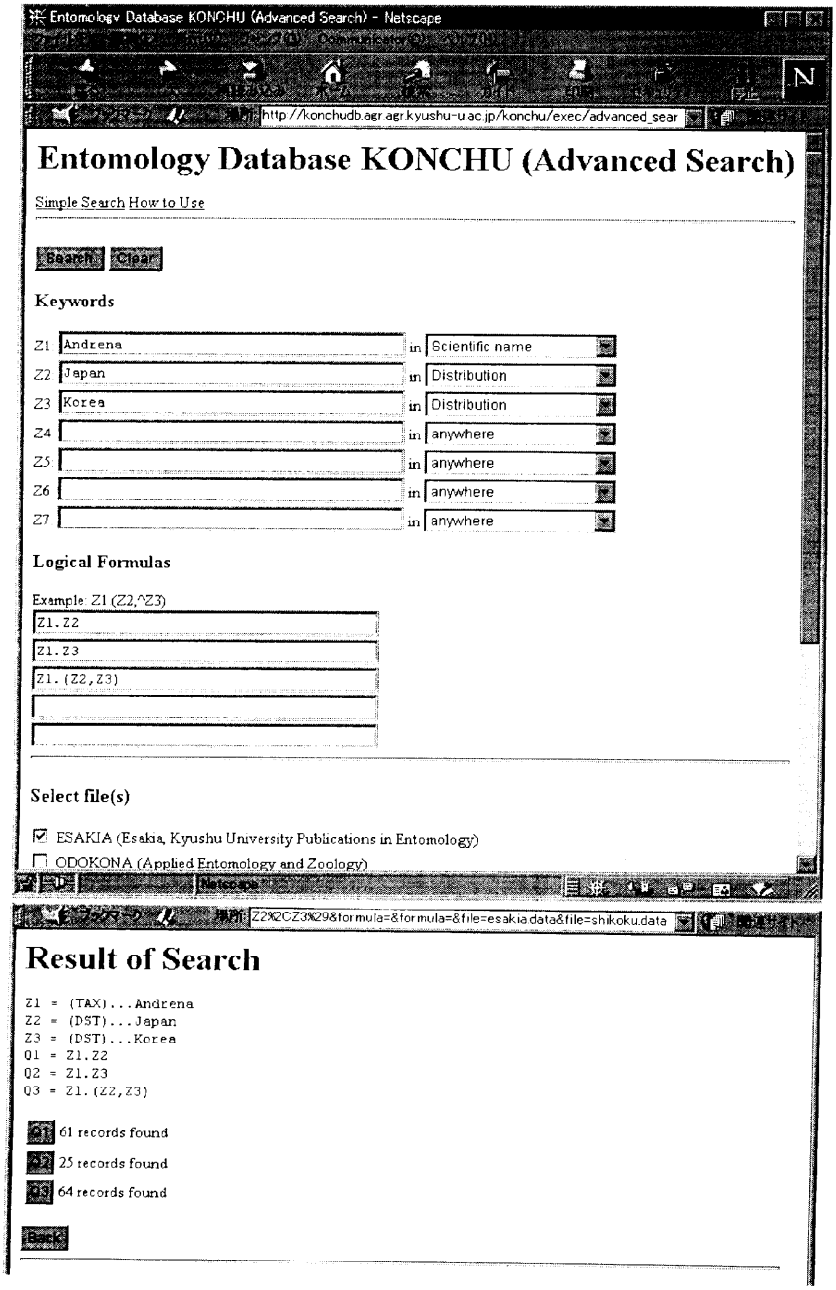


Fig. 6. Explanation of usage of the entomology database KONCHU in the home page "Example of advanced search". The upper screen shows that 3 keywords, ***Andrena*** in the item "scientific name", **Japan** in the item "distribution" and **Korea** in the item "distribution" are defined as Z1, Z2 and Z3, respectively. Z1.Z2 (= Z1 and Z2), Z1.Z3 (= Z1 and Z3) and Z1.(Z2,Z3) (= Z1 and (Z2 or Z3)) and the file "**ESAKIA**" is selected. The lower screen shows the result of search, 61, 25 and 64 records are found, respectively.

Result of Search

(TAX) Andrena (Gymnandrena) okabei sapporensis Hirashima
(AU) HIRASHIMA, Yoshihiro;TADAUCHI, Osamu;SUDA, Hirohisa
(T) New or little known bees of Japan (Hymenoptera, Apoidea) I. Supplementary note on two Andrena species
(J) Esakia
(VNP) (14): 135-139
(Y) 1979
(OR) Hymenoptera
(FAM) Andrenidae
(DST) Japan(Hokkaido, Honshu, Kyushu)
(KEY) systematics;description(male);floral record;flight records;remarks

(TAX) Andrena (Euandrena) ruficrus rabicrus Hirashima
(AU) HIRASHIMA, Yoshihiro;TADAUCHI, Osamu;SUDA, Hirohisa
(T) New or little known bees of Japan (Hymenoptera, Apoidea) I. Supplementary note on two Andrena species
(J) Esakia
(VNP) (14): 139-143
(Y) 1979
(OR) Hymenoptera
(FAM) Andrenidae
(DST) Japan(Hokkaido, northern & central Honshu)
(KEY) systematics;description(male);floral records;flight records;remarks

(TAX) Andrena
(AU) TADAUCHI, Osamu
(T) Taxonomic working system by computer (SAC) with application to Japanese Andrenid bees
(J) Esakia
(VNP) (17): 161-182
(Y) 1981
(OR) Hymenoptera
(FAM) Andrenidae
(DST) Japan
(KEY) taxonomic working system;computer;SAC;include 17 programs;character analysis;taxa grouping;specimen i

(TAX) Andrena Fabricius
(AU) TADAUCHI, Osamu
(T) Factor analysis of integumental sculptures in the Japanese Andrenid bees
(J) Esakia
(VNP) (19): 135-150
(Y) 1982
(OR) Hymenoptera
(FAM) Andrenidae
(KEY) factor analysis;character correlation;integumental sculptures;Andrena;Japan;9 common factors;biologic

(TAX) Andrena (Simandrena)
(AU) TADAUCHI, Osamu;HIRASHIMA, Yoshihiro
(T) New or little known bees of Japan (Hymenoptera, Apoidea) IV. Supplements to Andrena (Simandrena)
(J) Esakia
(VNP) (20): 81-92
(Y) 1983
(OR) Hymenoptera
(FAM) Andrenidae
(DST) Japan
(KEY) systematics;key to Japanese spp.;contain 4 spp.;include 2 new spp. & 1 new subsp.

Fig. 7. Example of result of a search of the entomology database KONCHU. Two keywords, *Andrena* and Japan are defined and shows the first some records.

Result of Search

Push the following buttons to display the results

Chalcidoidea

Encyrtidae

biology

parasite

host

Z1.Z2.Z3.Z4.Z5

```
Searching shikoku.data ...
RETRIEVED RECORDS
QUESTION  1 (Z 1)    =        636       636
QUESTION  2 (Z 2)    =        590       590
QUESTION  3 (Z 3)    =        852       852
QUESTION  4 (Z 4)    =         59        59
QUESTION  5 (Z 5)    =        943       943
QUESTION  6 (Z 6)    =          3         3
TOTAL                =       1145      1145
CPU TIME             =      0.540     0.540
```

Result of Search

```
(TAX) Comperiella unifasciata Ishii
(JTAX)
(AU)  TACHIKAWA, Tetsusaburo
(T)   Some notes on the male of Comperiella unifasciata Ishii (Hymenoptera: Encyrtidae)
(J)   Transactions of the Shikoku Entomological Society
(VNP) 3(7): 181-183, (181-183)
(Y)   1953
(OR)  Hymenoptera, ハチ目
(FAM) Encrytidae, トビコバチ科
(SYN)
(DST) Japan(new record:Shikoku,Kyushu);Java
(KEY) taxonomy;new record;remarks
(NOTE)

(TAX) Comperiella bifasciata
(JTAX)
(AU)  TACHIKAWA, Tetsusaburo
(T)   Some notes on the male of Comperiella unifasciata Ishii (Hymenoptera: Encyrtidae)
(J)   Transactions of the Shikoku Entomological Society
(VNP) 3(7): 181-183, (181-183)
(Y)   1953
(OR)  Hymenoptera, ハチ目
(FAM) Encrytidae, トビコバチ科
(SYN)
(DST)
(KEY) taxonomy
(NOTE)
```

Fig. 8. Example of a search of the entomology database KONCHU. Five keywords, Chalcidoidea, Encyrtidae, biology, parasite and host are defined and the file SHIKOKU is selected. The result shows the first 2 records of search for the question 2 (= Z2).